en

SUUNTO D4i
USER'S GUIDE

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1. WELCOME TO THE WORLD OF SUUNTO DIVE COMPUTERS

Suunto D4i wristop dive computer is designed to help you get the most out of your diving.

Suunto D4i simplifies your diving experience because all the information you need relating to depth, time, optional tank pressure, and decompression status is available on one easy-to-read display.

The Suunto D4i User's Guide contains vitally important information which enables you to become familiar with your Suunto wristop dive computer. To understand the use, displays, and limitations of the instrument before using it, please read this user's guide carefully, and save it for further reference. Note also that a glossary is included at the back of the user's guide to help you understand dive-specific terminology.

2. WARNINGS, CAUTIONS, AND NOTES

Throughout this user's guide, important safety icons are displayed. Three classifications are used to separate these icons by their order of importance:

WARNING *is used in connection with a procedure or situation that may result in serious injury or death*

CAUTION *is used in connection with a procedure or situation that will result in damage to the device*

NOTE *is used to emphasize important information*

Before you go on to read the user's guide itself, it is extremely important that you read the following warnings. These warnings are intended to maximize your safety while using Suunto D4i and must not be ignored.

WARNING *YOU MUST READ the leaflet and user guide for your dive computer. Failure to do so may lead to improper use, serious injury or death.*

WARNING *ALLERGIC REACTIONS OR SKIN IRRITATIONS MAY OCCUR WHEN PRODUCT IS IN CONTACT WITH SKIN, EVEN THOUGH OUR PRODUCTS COMPLY WITH INDUSTRY STANDARDS. IN SUCH EVENT, STOP USE IMMEDIATELY AND CONSULT A DOCTOR.*

⚠ WARNING

NOT FOR PROFESSIONAL USE! Suunto dive computers are intended for recreational use only. The demands of commercial or professional diving may expose the diver to depths and conditions that tend to increase the risk of decompression illness (DCI). Therefore, Suunto strongly recommends that the device not be used for any commercial or professional diving activities.

⚠ WARNING

ONLY DIVERS TRAINED IN PROPER USE OF SCUBA DIVING EQUIPMENT SHOULD USE A DIVE COMPUTER! No dive computer can replace the need for proper dive training. Insufficient or improper training may cause a diver to commit errors that may lead to serious injury or death.

⚠ WARNING

THERE IS ALWAYS A RISK OF DECOMPRESSION ILLNESS (DCI) FOR ANY DIVE PROFILE EVEN IF YOU FOLLOW THE DIVE PLAN PRESCRIBED BY DIVE TABLES OR A DIVE COMPUTER. NO PROCEDURE, DIVE COMPUTER OR DIVE TABLE WILL PREVENT THE POSSIBILITY OF DCI OR OXYGEN TOXICITY! An individual's physiological make up can vary from day to day. The dive computer cannot account for these variations. You are strongly advised to remain well within the exposure limits provided by the instrument to minimize the risk of DCI. As an added measure of safety, you should consult a physician regarding your fitness before diving.

⚠ WARNING

SUUNTO STRONGLY RECOMMENDS THAT SPORT DIVERS LIMIT THEIR MAXIMUM DEPTH TO 40 M/130 FT OR TO THE DEPTH CALCULATED BY THE COMPUTER BASED ON THE SELECTED O_2% AND A MAXIMUM PO_2 OF 1.4 BAR! Exposure to greater depths increases the risk of oxygen toxicity and decompression illness.

⚠ WARNING

DIVES WITH REQUIRED DECOMPRESSION STOPS ARE NOT RECOMMENDED. YOU SHOULD ASCEND AND BEGIN DECOMPRESSION IMMEDIATELY WHEN THE DIVE COMPUTER SHOWS YOU THAT A DECOMPRESSION STOP IS REQUIRED! Note the blinking ASC TIME symbol and the upward pointing arrow.

⚠ WARNING

USE BACK-UP INSTRUMENTS! Ensure that you use back-up instrumentation, including a depth gauge, submersible pressure gauge, timer or watch, and have access to decompression tables whenever diving with the dive computer.

⚠ WARNING

PERFORM PRE-CHECKS! Always activate and check the device before diving in order to ensure that all Liquid Crystal Display (LCD) segments are completely displayed, the device has not run out of battery power, and that the oxygen, altitude, personal, and Safety/Deep Stop are correct.

⚠ WARNING

YOU ARE ADVISED TO AVOID FLYING ANY TIME THE COMPUTER COUNTS DOWN THE NO-FLY TIME. ALWAYS ACTIVATE THE COMPUTER TO CHECK THE REMAINING NO-FLY TIME PRIOR TO FLYING! Flying or traveling to a higher altitude within the no-fly time can greatly increase the risk of DCI. Review the recommendations given by Divers Alert Network (DAN). There can never be a flying after diving rule that is guaranteed to completely prevent decompression illness!

⚠ WARNING

THE DIVE COMPUTER SHOULD NEVER BE TRADED OR SHARED BETWEEN USERS WHILE IT IS IN OPERATION! Its information will not apply to someone who has not been wearing it throughout a dive or sequence of repetitive dives. Its dive profiles must match that of the user. If it is left on the surface during any dive, the dive computer will give inaccurate information for subsequent dives. No dive computer can take into account dives made without the computer. Thus, any diving activity up to four days prior to initial use of the computer may cause misleading information and must be avoided.

⚠ WARNING

DO NOT EXPOSE ANY PART OF YOUR DIVE COMPUTER TO ANY GAS MIX CONTAINING MORE THAN 40% OXYGEN! Enriched air with greater oxygen content presents a risk of fire or explosion and serious injury or death.

⚠ WARNING

THE DIVE COMPUTER WILL NOT ACCEPT FRACTIONAL PERCENTAGE VALUES OF OXYGEN CONCENTRATION. DO NOT ROUND UP FRACTIONAL PERCENTAGES! For example, 31.8% oxygen should be entered as 31%. Rounding up will cause nitrogen percentages to be understated and will affect decompression calculations. If there is a desire to adjust the computer to provide more conservative calculations, use the personal adjustment feature to affect decompression calculations or reduce the PO_2 setting to affect oxygen exposure according to the entered O_2% and PO_2 values. As a safety precaution, the oxygen calculations in the dive computer are made with an oxygen percentage of 1% + set O_2%.

⚠ WARNING

SET THE CORRECT ALTITUDE ADJUSTMENT MODE! When diving at altitudes greater than 300 m/1000 ft, the Altitude Adjustment feature must be correctly selected in order for the computer to calculate the decompression status. The dive computer is not intended for use at altitudes greater than 3000 m/10000 ft. Failure to select the correct Altitude Adjustment setting or diving above the maximum altitude limit will result in erroneous dive and planning data.

⚠ WARNING

SET THE CORRECT PERSONAL ADJUSTMENT MODE! Whenever it is believed that factors that tend to increase the possibility of DCI exist, it is recommended that you use this option to make the calculations more conservative. Failure to select the correct Personal Adjustment setting will result in erroneous dive and planning data.

⚠ WARNING

DO NOT EXCEED THE MAXIMUM ASCENT RATE! Rapid ascents increase the risk of injury. You should always make the Mandatory and Recommended Safety Stops after you have exceeded the maximum recommended ascent rate. If this Mandatory Safety Stop is not completed the decompression model will penalize your next dive(s).

⚠ WARNING

YOUR ACTUAL ASCENT TIME MAY BE LONGER THAN DISPLAYED BY THE INSTRUMENT! The ascent time will increase if you:

- *remain at depth*
- *ascend slower than 10 m/min / 33 ft/min or*
- *make your decompression stop deeper than at the ceiling*

These factors will also increase the amount of air required to reach the surface.

⚠ WARNING

NEVER ASCEND ABOVE THE CEILING! You must not ascend above the ceiling during your decompression. In order to avoid doing so by accident, you should stay somewhat below the ceiling.

⚠ WARNING

DO NOT DIVE WITH A CYLINDER OF ENRICHED AIR IF YOU HAVE NOT PERSONALLY VERIFIED ITS CONTENTS AND ENTERED THE ANALYZED VALUE INTO YOUR DIVE COMPUTER! Failure to verify cylinder contents and enter the appropriate O_2% into your dive computer will result in incorrect dive planning information.

⚠ WARNING

Diving with gas mixtures exposes you to risks that are different from those associated with diving with standard air. These risks are not obvious, and require training to understand and avoid. Risks include possible serious injury or death.

⚠ WARNING

Traveling to a higher elevation can temporarily cause a change in the equilibrium of dissolved nitrogen in the body. It is recommended that you acclimatize to the new altitude by waiting at least three hours before diving.

⚠ WARNING

WHEN THE OXYGEN LIMIT FRACTION INDICATES THAT THE MAXIMUM LIMIT IS REACHED, YOU MUST IMMEDIATELY TAKE ACTION TO REDUCE OXYGEN EXPOSURE. Failure to take action to reduce oxygen exposure after the warning is given can rapidly increase the risk of oxygen toxicity, injury, or death

⚠ WARNING

Suunto recommends that you receive training in Free diving techniques and physiology before conducting breath hold dives. No dive computer can replace the need for proper dive training. Insufficient or improper training may cause a diver to commit errors that may lead to serious injury or death.

⚠ WARNING

If there are several divers using the dive computer with wireless transmission, always ensure that each diver is using a different code before starting the dive.

⚠ WARNING

Using the Suunto Dive Planner software is not a substitute for proper dive training. Diving with mixed gases has dangers that are not familiar to divers diving with air. To dive with trimix, triox, heliox and nitrox or all of them, divers must have specialized training for the type of diving they are doing.

⚠ WARNING

Always use realistic SAC rates and conservative turn pressures during dive planning. Overly optimistic or erroneous gas planning can result in the exhaustion of breathing gas during decompression or in a cave or a wreck.

⚠ WARNING

ENSURE THE WATER RESISTANCE OF THE DEVICE! Moisture inside the device and/or battery compartment may seriously damage the unit. Only an authorized SUUNTO service center should do service activities.

⚠ CAUTION

Never lift or carry your cylinder by holding the wireless tank pressure transmitter as this may break the cover and cause flooding of the unit. If your cylinder falls down with the transmitter attached to the regulator first stage, ensure that the transmitter has not been damaged before diving with it.

NOTE

It is not possible to change to AIR mode after a dive in NITROX mode, before the No-fly time has elapsed.
When planning both air and nitrox dives during the same dive series, you should set the instrument in NITROX mode and modify the gas mix accordingly.

3. SUUNTO USER INTERFACE

Present Depth

Daily Alarm Indicator

Dive Alarm Indicator

No-Fly Icon

Safety Stop Indicator

Tank Pressure Bar Graph

Wireless Transmission Indicator

Date
Dual Time
Maximum Depth
O_2% (Nitrox Mode)
Time
Tank Pressure

Low Battery Warning

Active Water Contact Indicator

Diver Attention Symbol

Current Time Display
Mode Indicator
No-Decompression Time
Total Ascent Time
Ceiling Depth
Remaining Air Time
Safety/Deep Stop Time
Surface Interval Time
No-Fly Time
Tissue Saturation Graph
Apnea Timer

Ascent Rate Bar Graph

Seconds Display
Stopwatch
Weekday
Dive Time
Dive Number
Temperature
PO_2% (Nitrox Mode)
OLF% (Nitrox Mode)

3.1. Navigating in the menus

Suunto D4i has four main operating modes - TIME mode (TIME), DIVE mode (DIVE), PLAN mode (PLAN), and MEMORY mode (MEM). It also has a APNEA TIMER sub-mode, which can be activated from TIME mode. To toggle between the main modes, press the MODE button. To select a submode in DIVE and MEM modes, press the UP/DOWN buttons.

APNEA TIMER

SETTINGS

Ventilation
Increment
Repeats

TIME

LIGHT

SETTINGS

Alarm
Time
Dual Time
Date
Units
Backlight
Contrast
Tones

DIVE

LIGHT

SETTINGS

Nitrox
Personal/Altitude
Tank Press Pairing
Tank Press Alarm
Depth Alarm
Depth Notify Alarm
Dive Time Alarm
Surface Time Notify Alarm
Sample Rate
Deepstop
Air Time
Units

PLAN

LIGHT

SUB-MODES

Air
Nitrox
Free
Off

MEM

LIGHT

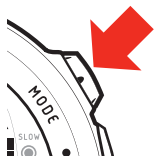
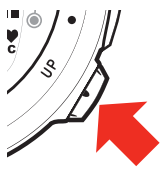
SUB-MODES

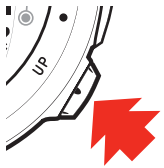
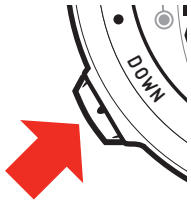
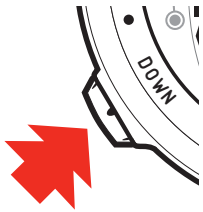
Logbook
History

3.2. Button symbols and functions

The table below explains the main functions of the dive computer's buttons. The buttons and their use is explained in more detail in the relevant sections of the user's guide.

Table 3.1. Button symbols and functions

Symbol	Button	Press	Main functions
	MODE	Short	Switch between main modes Switch from submode to main mode Activate backlight in DIVE mode
	MODE	Long	Activate backlight in other modes Activate stopwatch in DIVE mode
	SELECT	Short	Select a submode Select and accept settings Select stopwatch to stop or start in DIVE mode Displays Day History in FREE mode (free dive mode)
	UP	Short	Toggle between alternative displays Change submode Increase values

Symbol	Button	Press	Main functions
	UP	Long	Activate Apnea Timer in TIME mode
	DOWN	Short	Toggle between alternative displays Change submode Decrease values
	DOWN	Long	Enter Setting mode Toggle between ceiling and remaining air time display

4. GETTING STARTED

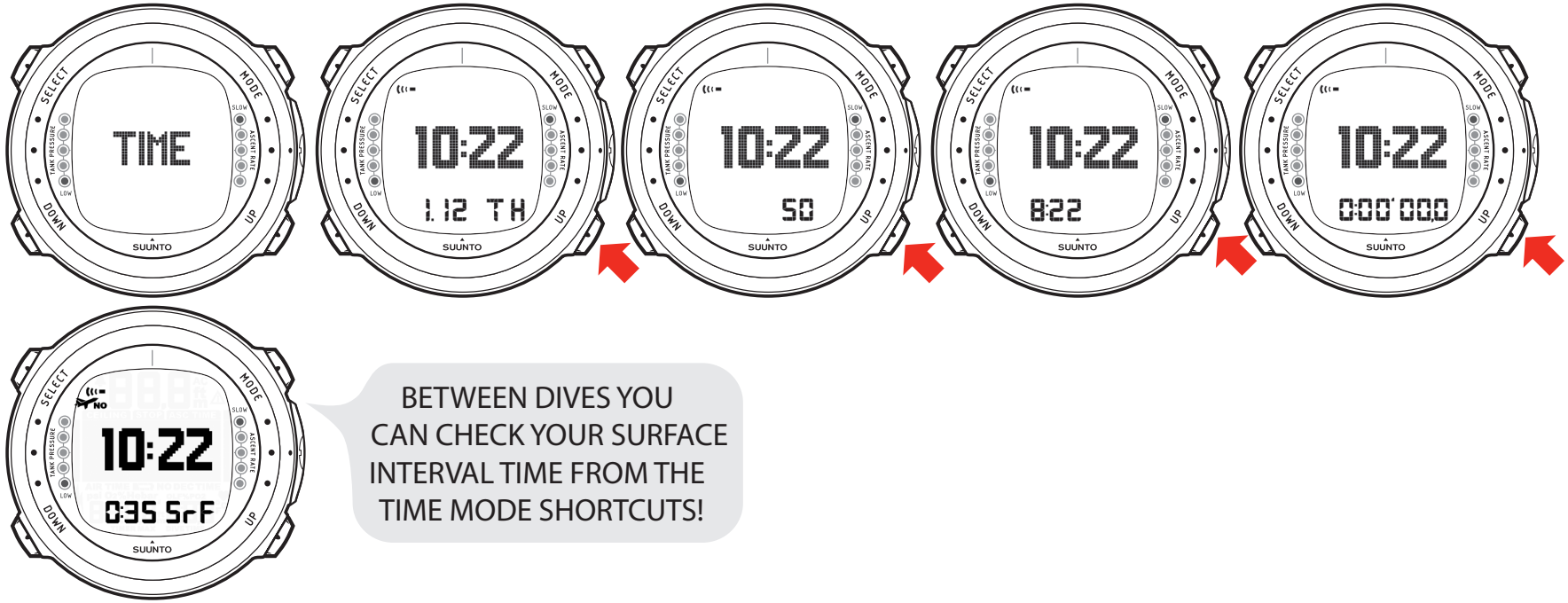
To get the most out of your Suunto D4i, use some time to personalize it and really make it YOUR computer. Set the correct time and date, the alarms, as well as the unit and backlight settings.

Suunto D4i is a very user-friendly dive computer, and you will quickly become familiar with its functions. Make absolutely sure that you know your computer and have it set up as you want it BEFORE getting into the water.

4.1. TIME mode settings

The first thing to do with your Suunto D4i is to set the TIME mode shortcuts: the time, alarm, dual time, date, units, backlight, contrast, and tones.

The figure below shows how to toggle between different shortcuts in the TIME mode:

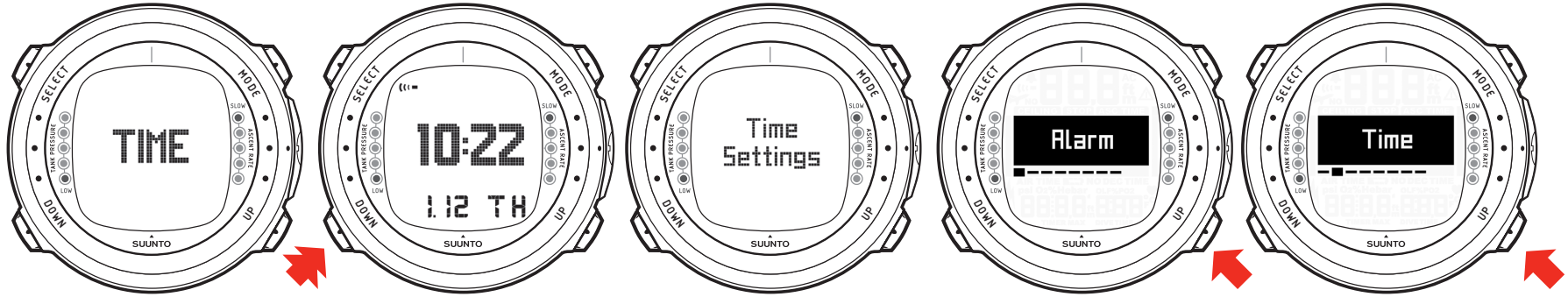


NOTE *The seconds display reverts to date display after 5 minutes in order to save battery power.*

NOTE *The display is illuminated by holding down the MODE button for more than 2 seconds.*

Now that after you know how to toggle between the shortcuts, you can start to set them.

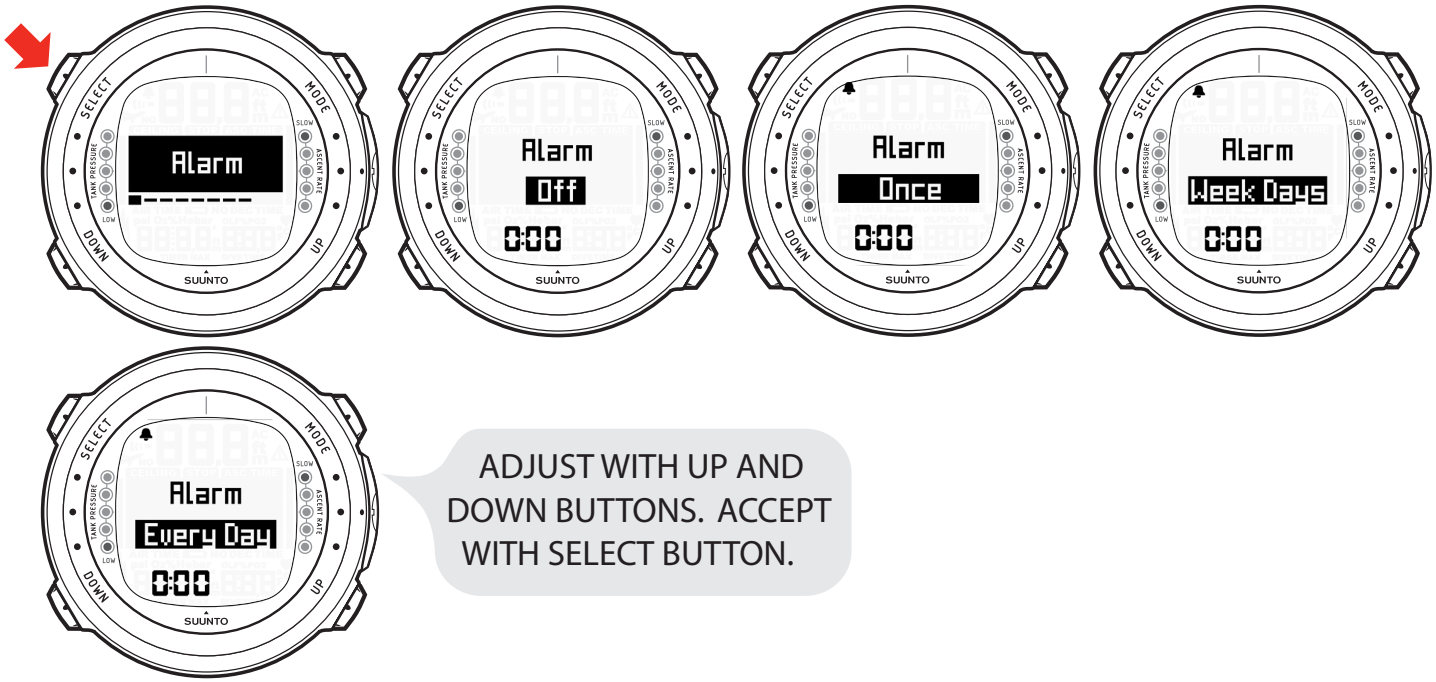
The figure below shows how to enter the TIME Settings menu.



USE UP AND DOWN BUTTONS TO TOGGLE BETWEEN ALARM, TIME, DUAL TIME, DATE, UNITS, CONTRAST AND TONES.

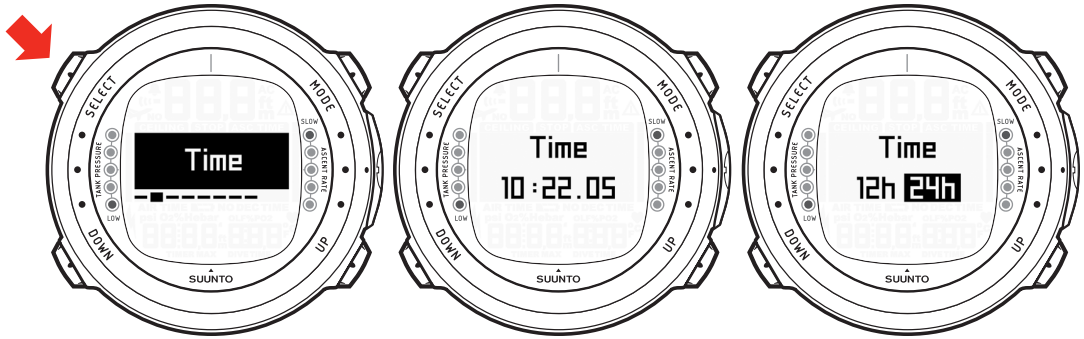
4.1.1. Setting the alarm

The dive computer has a daily alarm function. The alarm can be set to be activated only once, on weekdays or every day. When the daily alarm activates, the screen blinks and the alarm sounds for 60 seconds. Press any button to stop the alarm.



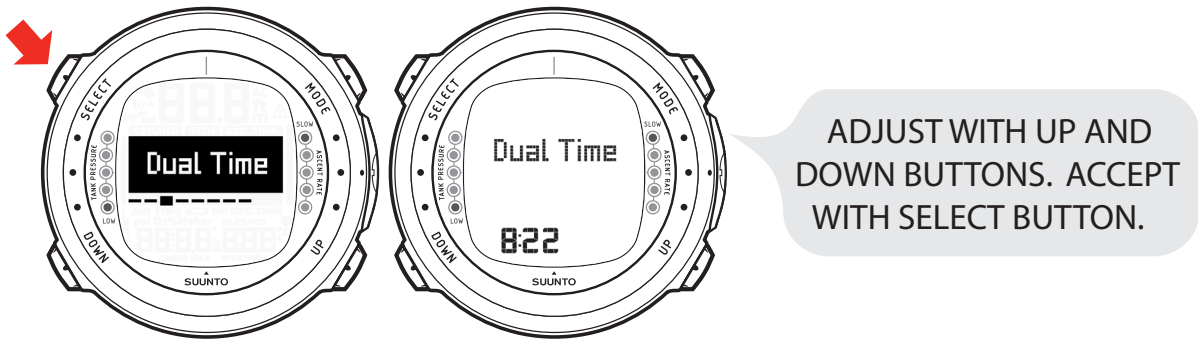
4.1.2. Setting the time

In the Time setting mode, you are able to set the hour, minute, and second, as well as choose between a 12 and 24 hour display.



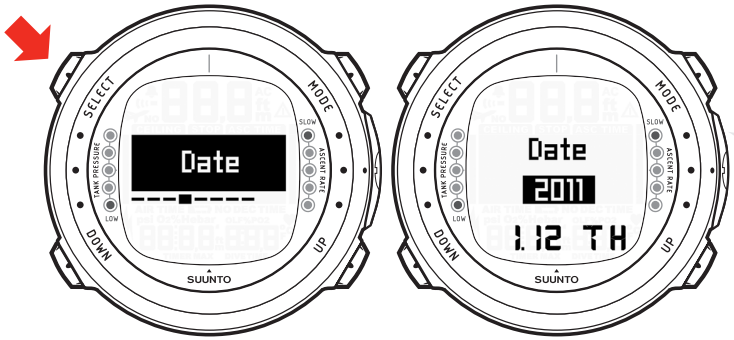
4.1.3. Setting the dual time

In the Dual Time setting mode, you are able to select the hour and minute of a dual time, which is useful when traveling to a different time zone.



4.1.4. Setting the date

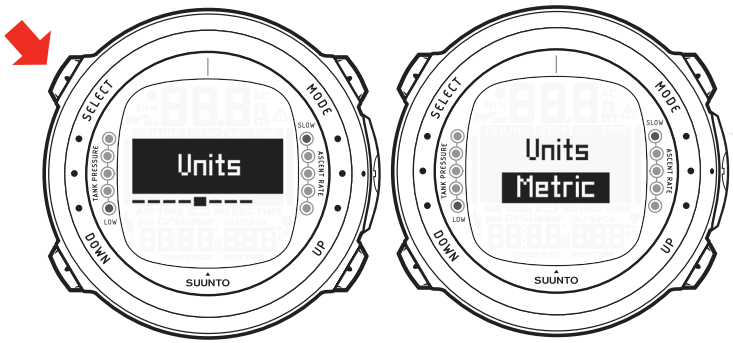
In the Date setting mode, you are able to set the year, month, and day. The day of the week is automatically calculated in accordance with the date. In metric units the date is presented as DD/MM, and in imperial units as MM/DD.



ADJUST WITH UP AND DOWN BUTTONS. ACCEPT WITH SELECT BUTTON.

4.1.5. Setting the units

In the Units setting mode, you are able to choose whether the units are displayed in either the metric or imperial system (meters/feet, Celsius/Fahrenheit, and so on).

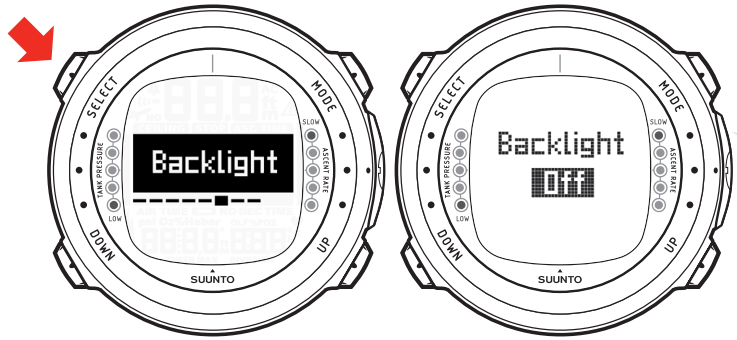


ADJUST WITH UP AND DOWN BUTTONS. ACCEPT WITH SELECT BUTTON.

4.1.6. Setting the backlight

In the Backlight setting mode, you are able to turn the backlight ON or OFF and to define how long it stays on for (5, 10, 20, 30, or 60 seconds).

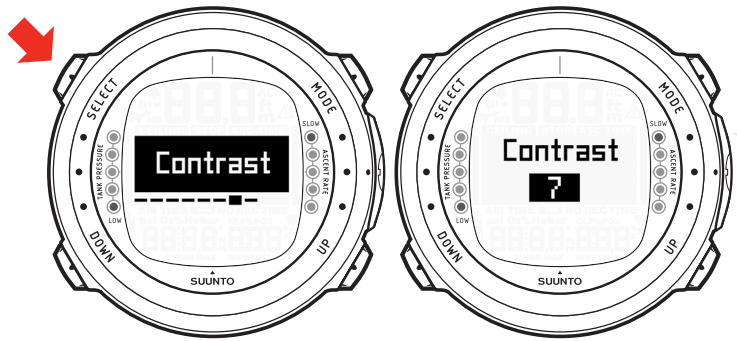
NOTE *When the backlight is turned OFF, it does not illuminate when an alarm sounds.*



ADJUST WITH UP AND DOWN BUTTONS. ACCEPT WITH SELECT BUTTON.

4.1.7. Setting the contrast

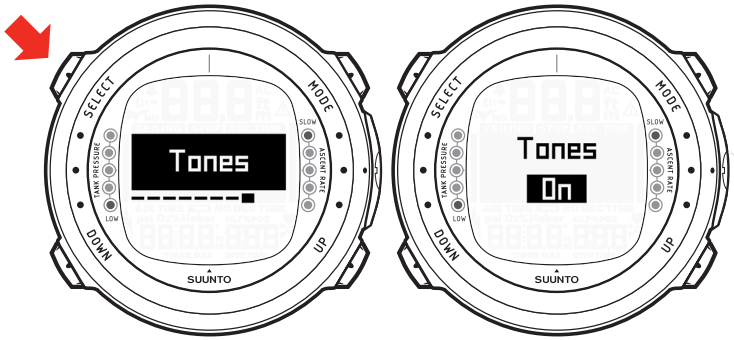
In the Contrast setting mode, you are able to set the contrast of the display (the value range is between 0 and 10).



ADJUST WITH UP AND DOWN BUTTONS. ACCEPT WITH SELECT BUTTON.

4.1.8. Setting the tones

In the Tones setting mode, you are able to activate or deactivate the tones.



ADJUST WITH UP AND DOWN BUTTONS. ACCEPT WITH SELECT BUTTON.

NOTE *When the tones are off, there are no audible alarms.*

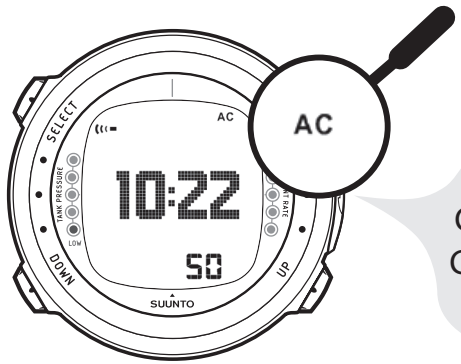
4.2. Stopwatch

The Stopwatch function in Suunto D4i measures elapsed and split times.

USE DOWN BUTTON TO START STOPWATCH AND TAKE A SPLIT TIME. THE UP BUTTON STOPS THE STOPWATCH. IF YOU HAVE TAKEN SPLIT TIMES, YOU CAN SCROLL THEM BY SHORT PRESSING THE UP BUTTON. LONG PRESSING UP RESETS THE STOPWATCH.

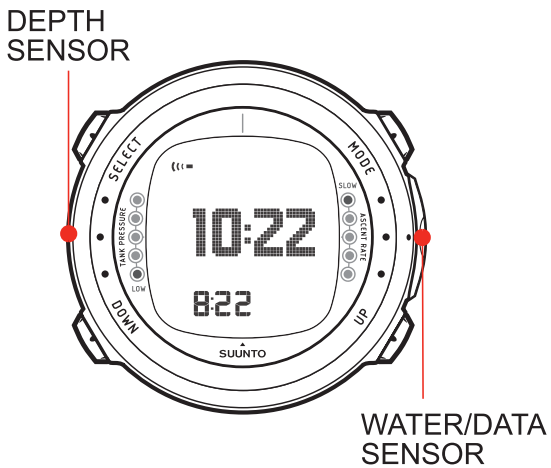
4.3. AC water contacts

The water and data transfer contact is located on the side of the case. When submerged, the water contact poles are connected by the conductivity of the water and the “AC” symbol appears on the display. The AC text is shown until the water contact deactivates.



AC APPEARS IN THE TOP RIGHT CORNER OF THE DISPLAY, WHEN THE DIVE COMPUTER IS IN CONTACT WITH WATER. THIS ALSO ACTIVATES THE DIVE MODE.

Contamination or dirt on the water contact may prevent this automatic activation. Therefore, it is important that the water contact is kept clean. The contact can be cleaned with fresh water and a soft brush, for example a tooth brush.



4.4. Apnea Timer

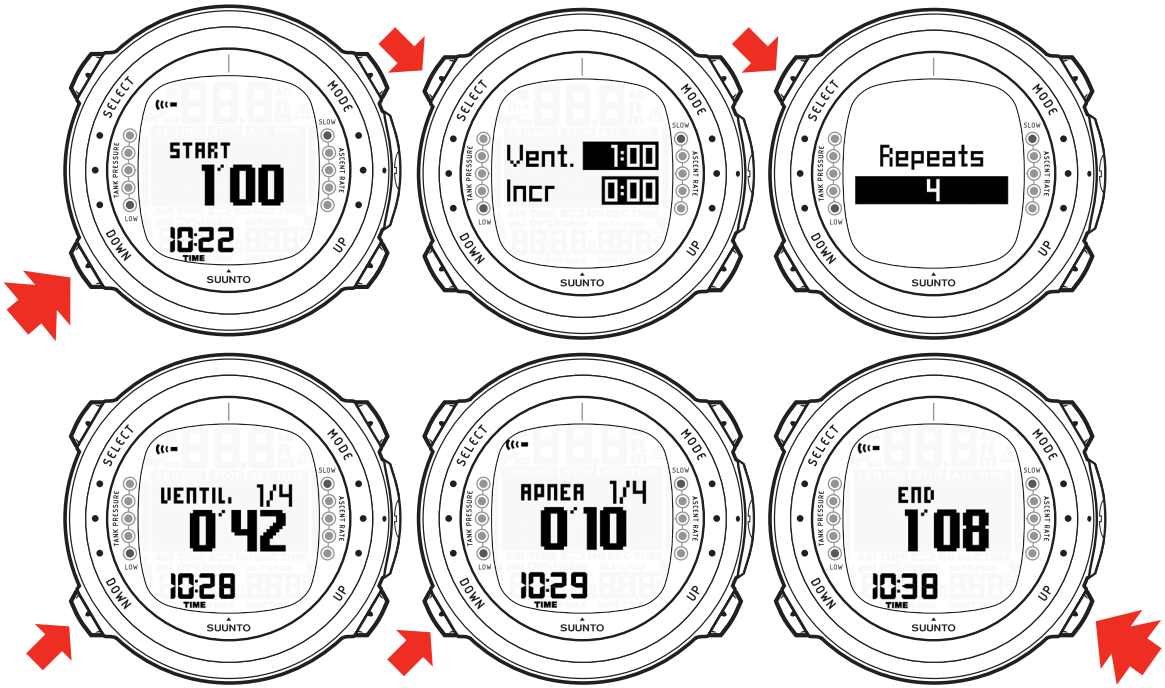
You can use the Apnea Timer function for interval training in freediving. To set the Apnea Timer, follow these steps:

1. Long press UP in the TIME mode to enter the Apnea Timer.
2. In the Apnea Timer, long press DOWN to enter settings in which you can define the duration of the ventilation period and the incremental increase/decrease in time for each cycle (repetition). You can adjust values with the UP and DOWN buttons.
3. Short press SELECT, and define the number of cycles.
4. Start the first cycle by short pressing DOWN.

   The timer counts down the ventilation time, which is also indicated by two short beep tones.
5. Short press DOWN to start the Apnea cycle. Press DOWN again when a new ventilation cycle begins. Repeat until the end of the defined number of cycles.

   You can reset the apnea timer by long pressing UP.

Note that the apnea timer allows up to 20 cycles and the number of allowed cycles is dependent on the length of the ventilation period and on the incremental increase/decrease. The last ventilation period cannot be shorter than 5 seconds or longer than 20 minutes.


SELECT
MODE
DOWN
UP
TANK PRESSURE
SLOW
ASCENT RATE
LOW
SUUNTO
START
1'00
10:22
TIME
Vent. 1:00
Incr 0:00
Repeats
4
VENTIL. 1/4
0'42
10:28
TIME
APNEA 1/4
0'10
10:29
TIME
END
1'08
10:38
TIME

5. BEFORE DIVING

Do not attempt to use the dive computer without reading this user's guide in its entirety, including all the warnings. Make sure that you fully understand the use, displays and limitations of the instrument. If you have any questions about the manual or the dive computer, contact your SUUNTO dealer before diving with the dive computer.

Always remember that YOU ARE RESPONSIBLE FOR YOUR OWN SAFETY!

When used properly, Suunto D4i is an outstanding tool for assisting properly trained, certified divers in planning and executing sport dives. It is NOT A SUBSTITUTE FOR CERTIFIED SCUBA INSTRUCTION, including training in the principles of decompression.

⚠ WARNING *Diving with gas mixtures exposes you to risks that are different from those associated with diving with standard air. These risks are not obvious, and require training to understand and avoid. Risks include possible serious injury or death.*

Do not attempt to dive with any gas mix other than standard air without first receiving certified training in this specialty.

5.1. The Suunto RGBM

Suunto's Reduced Gradient Bubble Model (RGBM), utilized in the Suunto D4i, predicts both dissolved and free gas in the blood and tissues of divers. It is a significant advance on the classic Haldane models, which do not predict free gas. The advantage of Suunto Technical RGBM is additional safety through its ability to adapt to a variety of situations and dive profiles.

In order to optimize the response to different increased risk situations, an additional category of stop, referred to as a Mandatory Safety Stop, has been introduced. The combination of stop types depends on the user settings and the specific dive situation.

To get the most from the Suunto Technical RGBM safety benefits, refer to *Section 5.8.10. Setting the deep stops* and *Section 5.11. Deep stops*.

5.2. Emergency ascents

In the unlikely event that the dive computer malfunctions during a dive, follow the emergency procedures provided by your certified dive training agency or, alternatively, follow these steps:

1. Assess the situation calmly and then move promptly to less than 18 m/60 ft.
2. At 18 m/60 ft, slow down your ascent rate to 10 m/33 ft per minute and move to a depth between 3 and 6 m/10 and 20 ft.
3. Stay there for as long as your air supply will safely allow. After reaching the surface, do not dive for at least 24 hours.

5.3. Dive computer limitations

While the dive computer is based on current decompression research and technology, you must realize that the computer cannot monitor the actual physiological functions of an individual diver. All decompression schedules currently known to the authors, including the U.S. Navy Tables, are based on theoretical mathematical models, which are intended to serve as a guide to reduce the probability of decompression illness.

5.4. Freediving

Freediving, and particularly freediving in combination with scuba diving, may present risks that have not been researched and are not commonly known.

Anyone who engages in any form of breath hold diving is in danger of shallow-water blackout (SWB), that is, the sudden loss of consciousness caused by oxygen starvation.

Any breath hold diving results in some nitrogen build-up in the blood and other fast tissues. Due to the short time spent at depth, this build-up is generally not significant. Therefore, provided the effort involved in freediving has not been severe, there is little risk in diving after breath hold diving. However, the reverse is more unknown and may significantly increase the risk of DCI. Therefore, FREEDIVING AFTER SCUBA DIVING IS NOT RECOMMENDED. You should avoid freediving, and not exceed 5 m/16 ft, for at least two hours after scuba diving.

⚠ WARNING *Suunto recommends that you receive training in freediving techniques and physiology before conducting breath hold dives. No dive computer can replace the need for proper dive training. Insufficient or improper training may cause a diver to commit errors that may lead to serious injury or death.*

5.5. Audible and visual alarms

The dive computer has audible and visual alarms that advise when important limits are approached or that prompt you to acknowledge preset alarms. The table below describes the different alarms and their meanings.

Table 5.1. Dive computer alarms

Alarm type	Sound pattern	Duration
High priority		2.4 s sound + 2.4 s break
Low priority		0.8 s sound + 3.2 s break

Table 5.2.

Instructional beep	Sound pattern	Interpretation
Ascending		Start ascending
Descending		Start descending

The **visual information** on the dive computer display is shown during the alarm breaks in order to save battery.

Table 5.3. Audible and visual alarm types

Alarm type	Alarm reason
High priority alarm followed by "Start ascending" beep, repeated for the maximum of three minutes. The **PO_2** value blinks.	PO2 value is greater than the adjusted value. Current depth is too deep for the gas in use. You should immediately ascend or change to a gas with a lower oxygen percentage.
High priority alarm followed by "Start descending" beep, repeated for the maximum of three minutes. The **Er** symbol blinks and an arrow points downwards.	Decompression ceiling depth is exceeded. You should immediately descend to, or below, the ceiling.
High priority alarm, sounded three times. The **SLOW** symbol blinks.	Maximum allowed ascent rate, 10 m per min / 33 ft per min, is exceeded. Slow the ascend rate down.
Low priority alarm followed by "Start ascending" beep, sounded two times. The **ASC TIME** symbol blinks and an arrow points upwards.	No-decompression dive turns into a decompression stop dive. Depth is below the decompression floor level. You should ascend to, or above, the floor.

Alarm type	Alarm reason
Low priority alarm followed by "Start descending" beep, for the duration of the Deep Stop violation. The **DEEPSTOP** symbol blinks and an arrow points downwards.	Mandatory Deep Stop is violated. You should descend to complete the Deep Stop.
Low priority alarm followed by "Start descending" beep, repeated for three minutes. An arrow points downwards.	Mandatory Safety Stop is violated. You should descend to complete the Safety Stop.
Low priority alarm followed by two short beeps, sounded once. The **DEEPSTOP** and timer symbols are displayed.	The Deep Stop depth is reached. Make the Mandatory Deep Stop for the duration shown by the timer.
Low priority alarm, sounded two times. The **Tank pressure** value blinks.	Cylinder pressure reaches the selected alarm pressure, 10–200 bar / 200–2900 psi. Cylinder pressure reaches the fixed alarm pressure, 50 bar/700 psi. This alarm operates only if the pairing to the wireless tank pressure transmitter is performed correctly and the transmission of tank pressure data is not disrupted during the dive for any reason. You can acknowledge the alarm.

Alarm type	Alarm reason
Low priority alarm, sounded two times. The **OLF% value** blinks if the PO2 value is greater than 0.5 bar.	The OLF value reaches the fixed 80% or 100%. In the **DIVE Nitrox** mode only. You can acknowledge the alarm.
Low priority alarm, sounded two times. The **Maximum depth** value blinks.	The selected depth (3–120 m / 10–394 ft) is exceeded. The fixed maximum depth (120 m / 394 ft) is exceeded. You can acknowledge the alarm.
Low priority alarm, sounded two times. The **Dive time** value blinks.	The selected dive time (1–999 min) is exceeded. You can acknowledge the alarm.
Low priority alarm, sounded once. The **Maximum depth** value blinks.	Indicates reaching a certain depth. In the **DIVE Free** mode only. You can acknowledge the alarm.
Low priority alarm, sounded once. The **Surface time** value blinks.	Indicates the length of the surface time before a new dive. In the **DIVE Free** mode only. You can acknowledge the alarm.

NOTE *When the backlight is turned OFF, it does not illuminate when an alarm is activated.*

NOTE *When the tones are turned OFF, the alarms are not sounded when an alarm is activated.*

WARNING *WHEN THE OXYGEN LIMIT FRACTION INDICATES THAT THE MAXIMUM LIMIT IS REACHED, YOU MUST IMMEDIATELY TAKE ACTION TO REDUCE OXYGEN EXPOSURE. Failure to take action to reduce oxygen exposure after the warning is given can rapidly increase the risk of oxygen toxicity, injury, or death.*

5.6. Error conditions

The dive computer has warning indicators that alert you to react to certain situations that would significantly increase the risk of DCI. If you do not respond to its warnings, the dive computer will enter an Error mode, indicating that the risk of DCI has greatly increased. If you understand the dive computer and operate it sensibly, it is very unlikely you will ever put the instrument into the Error mode.

Omitted decompression

The Error mode results from omitted decompression, for example, when you stay above the ceiling for more than three minutes. During this three-minute period the Er warning is shown and the audible alarm beeps. After this, the dive computer enters a permanent Error mode. The instrument will continue to function normally if you descend below the ceiling within this three-minute period.

When the dive computer is in the permanent Error mode, only the Er warning is shown in the center window. The dive computer does not show times for ascent or stops. However, all the other displays function as before to provide information for ascent. You must immediately ascend to a depth of 3 to 6 m/10 to 20 ft and remain at this depth until air supply limitations require you to surface.

After surfacing, you should not dive for a minimum of 48 hours. During the permanent Error mode, the Er text is displayed in the center window and the planning mode is disabled.

5.7. Wireless transmission

In order to use the transmitter, the wireless integration needs to be enabled in your Suunto D4i settings. To enable or disable the wireless integration, refer to *Section 5.8.3. Setting the tank pressure pairing*.

5.7.1. Installing the wireless transmitter

When purchasing the Suunto D4i, we strongly recommend that you have your Suunto representative attach the transmitter to the first stage of your regulator.

However, if you decide to attach it yourself, do the following:

1. Remove the high pressure (HP) port plug on the first stage of your regulator using an appropriate tool.
2. Thread the high pressure transmitter of the Suunto D4i into the HP port of your regulator with your fingers. DO NOT OVERTIGHTEN! Maximum torque is 6 Nm/4.4 lbsft or 53 lbsin. The seal is based on a static O-ring, not force!

3. Attach the regulator to the scuba cylinder and slowly open the valve. Check for leaks by submerging the regulator first stage in water. If leaks are detected, check the condition of the O-ring and sealing surfaces.

5.7.2. Pairing and code selection

In order to receive wireless data, the transmitter and the Suunto D4i need to be paired. During the pairing procedure, the dive computer locks on the code that the transmitter has.

The transmitter is activated when the pressure exceeds 15 bar/300 psi and it then starts sending pressure data together with a code number. During the pairing procedure, the Suunto dive computer stores the code number and starts displaying pressure values that are received with that code. This coding procedure prevents data mix-up from other divers also using a Suunto wireless transmitter.

When there is no stored code, the Suunto D4i displays “cd:--” and receives data with lowered sensitivity from a very short distance only (0.1–0.5m / 0.5–1 ft). The flash symbol is not displayed at this phase. By taking the Suunto unit close to the transmitter, it will store the received code and start receiving with full sensitivity and display data received with this code only.

NOTE *The pairing procedure only needs to be performed once, before the first use. You do not need to redo the pairing unless you change the transmitter to a new one, or another diver in your group uses the same code as you.*

To pair the transmitter and the Suunto D4i dive computer:

1. Ensure that the transmitter is properly attached to the regulator’s HP port and that the regulator is properly attached to the cylinder.
2. Ensure that the Suunto D4i is turned on, and that the wireless integration is enabled in the Suunto D4i settings (Tank Press is set ON. For more information, refer to *Section 5.8.3. Setting the tank pressure pairing*). If the Suunto D4i is in the TIME mode, enter the DIVE mode by short-pressing the MODE button. The D4i should display “cd:--” in the lower left corner of the display.
3. Slowly open the cylinder valve fully and pressurize the system. The transmitter starts transmitting when the pressure exceeds 15 bar/300 psi.
4. Take the Suunto D4i unit close to the transmitter. The unit will then quickly display the selected code number and then start displaying the transmitted cylinder pressure. The wireless transmitter indicator (blinking flash symbol) is displayed every time the Suunto D4i receives a valid signal.

⚠ WARNING *If there are several divers using a Suunto wireless transmitter, always ensure that each diver is using a different code before starting the dive.*

In case there are several divers using the same code, the transmitter's code must be changed before diving.

To assign a new transmitter code:

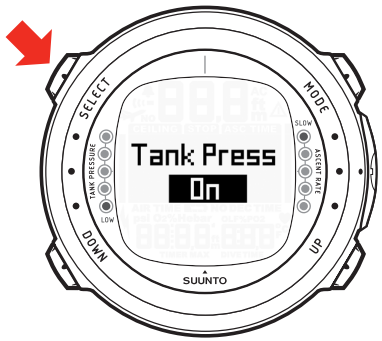
1. Slowly open the cylinder valve fully to pressurize the system.
2. Immediately close the tank valve, and quickly depressurize the regulator so that the pressure is reduced to less than 10 bar/145 psi. Wait about 10 seconds, and slowly open the cylinder valve again to re-pressurize to above 15 bar/300 psi.

   The transmitter assigns a new code automatically.

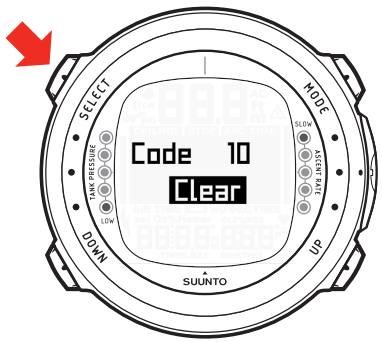
NOTE *To pair on the new transmitter code, the Suunto D4i code must be cleared first.*

To re-pair the transmitter with the new code and the Suunto D4i dive computer:

1. In the DIVE mode of the Suunto D4i, long-press the DOWN button to enter the DIVE settings. Enter the Tank Press Pairing menu (Refer to *Section 5.8.3. Setting the tank pressure pairing*). Short-press the SELECT button to bypass the tank pressure ON/OFF selection (the tank pressure transmission must remain ON).



2. In the next menu, a Code number is displayed. Clear the code by short-pressing the UP button (toggle from “Ok” to “Clear”), and press the SELECT button.



3. Short-press the MODE button to exit the DIVE settings.

4. Take the Suunto D4i unit close to the transmitter (the system must be pressurized to above 15bar/300 psi). The dive computer displays the received new code number and then start displaying the transmitted cylinder pressure. The wireless transmitter indicator (flash symbol) is displayed every time the Suunto D4i receives a valid signal.

NOTE *In order to save battery energy, the transmitter enters power saving mode with slower data transmission rate if the tank pressure remains unchanged for more than five (5) minutes. The transmitter continues transmitting with the saved code when any pressure change is detected (e.g., the user presses the purge button on regulator or breathes from the regulator).*

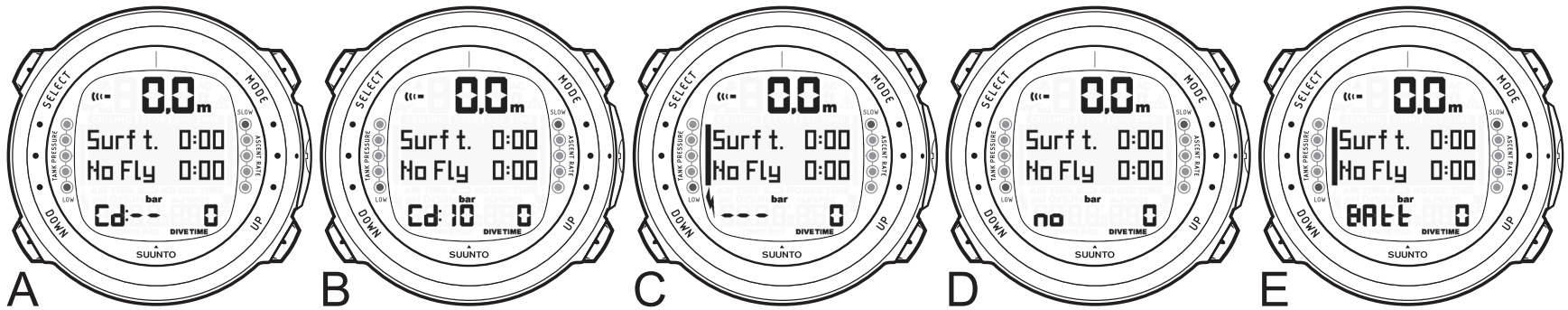
5.7.3. Transmitting data

After the pairing procedure, the Suunto D4i will receive cylinder pressure data from the transmitter. The pressure is displayed in either bars or psi, depending on the unit selected. Any time the Suunto D4i receives an appropriate signal, a flash symbol is displayed in the lower left corner.

Table 5.4. Pressure transmission related displays

Display	Indication	Figure
Cd:--	No code stored, the Suunto unit is ready for pairing with the transmitter.	A
Cd:10	Set Code. Code number can be between 01–40.	B

Display	Indication	Figure
- - -	The flash symbol is blinking. Pressure reading exceeds allowed limit (over 360 bar/5220 psi).	C
no conn	Text "no conn" is displayed when the unit receives no data packets from the transmitter. Pressure reading has not been updated for more than one minute. The latest valid pressure reading is displayed intermittently. The flash symbol is not displayed. Transmitter is out of range (>1.2 m/4 ft), in power saving mode or on another channel. Activate the transmitter by breathing off the regulator, and bring the D-series unit closer to the transmitter then check if the flash symbol appears. If not, clear the code on the Suunto D-series unit.	D
batt	Pressure transmitter battery voltage is low. The pressure reading is displayed intermittently. Change the transmitter battery!	E



A B C D E

5.8. DIVE mode settings

Suunto D4i has several user-definable functions, as well as depth and time-related alarms that you can set according to your personal preferences. The DIVE mode settings are dependent on the dive submode chosen (AIR, NITROX, FREE), so that, for example, nitrox settings are only available in the NITROX submode.

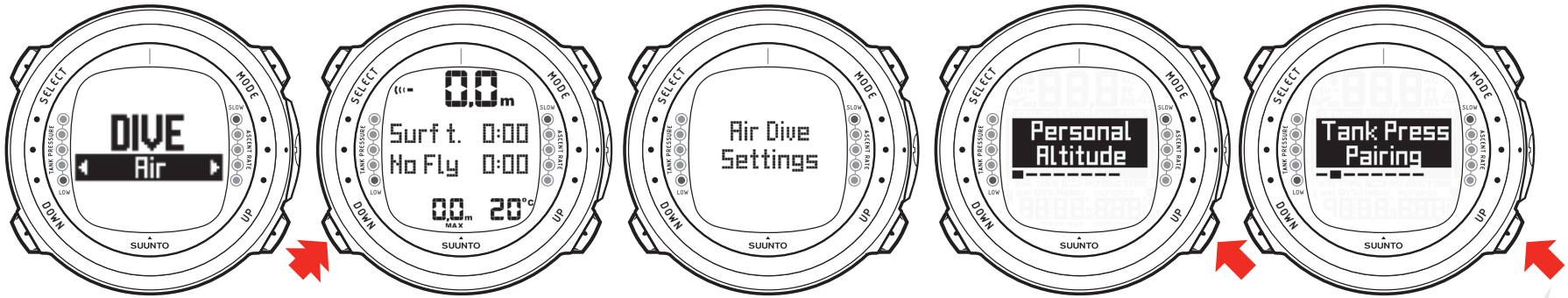
The table below shows what DIVE settings are available in each DIVE submode.

Table 5.5.

Setting	**AIR mode**	**NITROX mode**	**FREE mode**
Nitrox		X	
Personal/Altitude	X	X	
Tank pressure pairing	X	X	
Tank pressure alarm	X	X	
Depth alarm	X	X	X
Depth notify alarm			X
Dive time alarm	X	X	X
Surf time notify alarm			X
Sample rate	X	X	X
Deep stop	X	X	

Setting	AIR mode	NITROX mode	FREE mode
Air time	X	X	
Units	X	X	X

The figure below shows how to enter the DIVE mode settings menu.

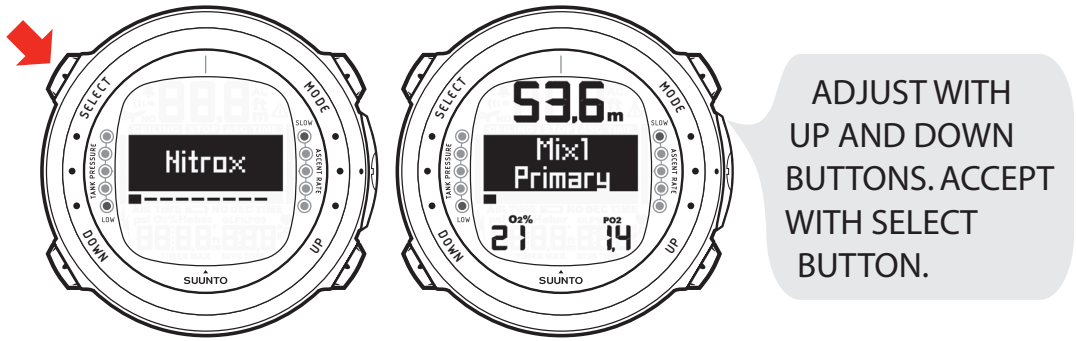


NOTE *Some settings cannot be changed until five (5) minutes has elapsed after the dive.*

5.8.1. Setting the nitrox values

If set to the NITROX mode, the correct oxygen percentage of the gas in your cylinder must always be entered into the computer to ensure correct nitrogen and oxygen calculations. In addition, the oxygen partial pressure limit must be set. When in the NITROX setting mode, the maximum operating depth (MOD), based on the chosen setting, will also be displayed.

The default oxygen percentage (O_2%) setting is 21% (air) and oxygen partial pressure (PO_2) setting 1.4 bar.



ADJUST WITH UP AND DOWN BUTTONS. ACCEPT WITH SELECT BUTTON.

NOTE

If the oxygen content of a mix is set to 22% or above, the setting will remain stored until changed; it does not automatically revert back to 21%.

5.8.2. Setting the personal/altitude adjustments

The current Altitude and Personal Adjustment settings are displayed in the startup screen when entering the DIVE mode. If the mode does not match the altitude or personal conditions (refer to *Section 5.9.4. Diving at altitude* and *Section 5.9.5. Personal adjustments*), it is imperative that you enter the correct selection before diving. Use Altitude Adjustment to select the correct altitude and use Personal Adjustment to add an extra level of conservatism.

5.8.3. Setting the tank pressure pairing

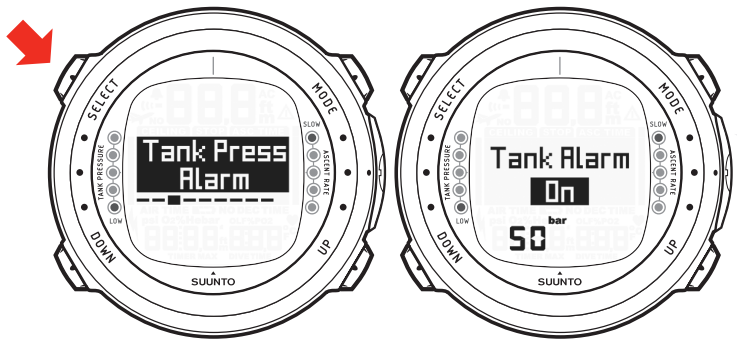
In the Tank Pressure Pairing setting mode, the wireless transmission can be set “ON” or “OFF” depending on whether the wireless pressure transmitter is used or not. When the wireless transmission is set “OFF”, no cylinder pressure-related data is shown, nor data reception made. The Code setting allows you to verify the selected transmitter code and to clear the stored transmitter code. Clearing the code enables re-pairing with the transmitter, which can be necessary if a new transmitter or used, or if several divers are using the same transmitter code.

ADJUST WITH UP AND DOWN BUTTONS. ACCEPT WITH SELECT BUTTON.

5.8.4. Setting the tank pressure alarm

The tank pressure alarm can be set "ON" or "OFF" and in the range of 10–200 bar. The alarm is the secondary cylinder pressure alarm point. The alarm is activated when the tank pressure drops below the set limit. You can acknowledge this alarm.

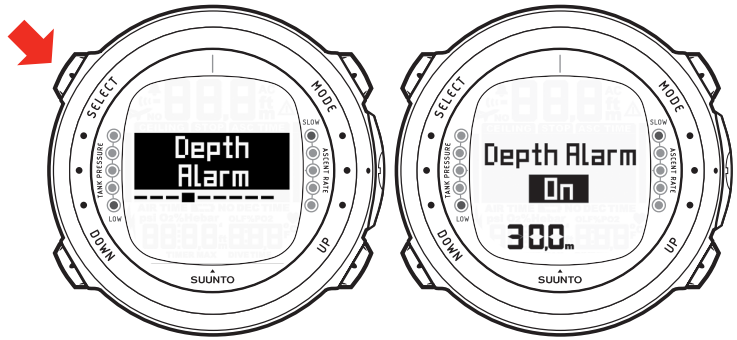
The 50 bar/700 psi alarm, however, is fixed and cannot be changed. You can acknowledge this alarm.



ADJUST WITH UP AND DOWN BUTTONS. ACCEPT WITH SELECT BUTTON.

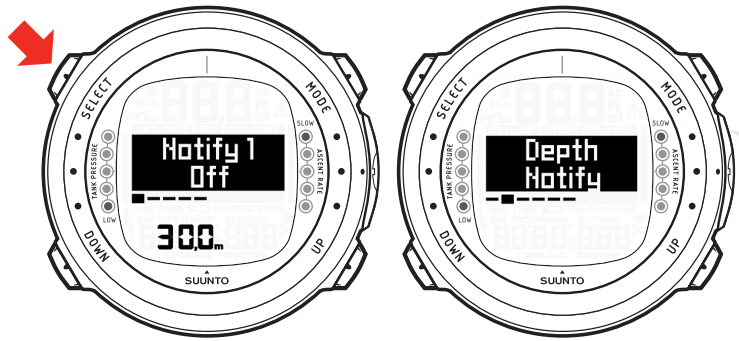
5.8.5. Setting the depth alarm

The Depth Alarm setting is factory-set to 30 m/100 ft, but you can adjust it according to your personal preference, or switch it off altogether. The depth range can be set from 3 m to 120 m/10 ft to 394 ft.



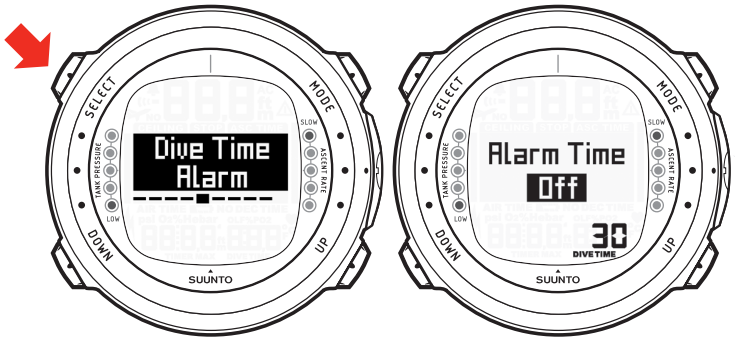
5.8.6. Setting the depth notify alarm (FREE mode)

You can set five independent Depth Notify Alarms to indicate a certain depth, for example, start of free falling or mouth filling in freediving.



5.8.7. Setting the dive-time alarm

The Dive Time Alarm setting can be activated and used for several purposes to add to your diving safety.

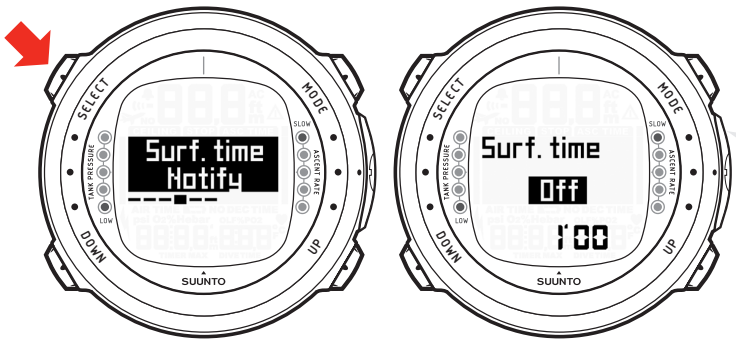


ADJUST WITH UP AND DOWN BUTTONS. ACCEPT WITH SELECT BUTTON.

NOTE *With a range of 1–999 minutes, the alarm can be set to your planned bottom time, for example.*

5.8.8. Setting the surface time notify alarm (FREE mode)

You can set the Surface Time Notify Alarm to indicate the length of the surface time before a new dive. Suunto D4i starts counting the time automatically when you surface (at 0.5 m/1.6 ft).

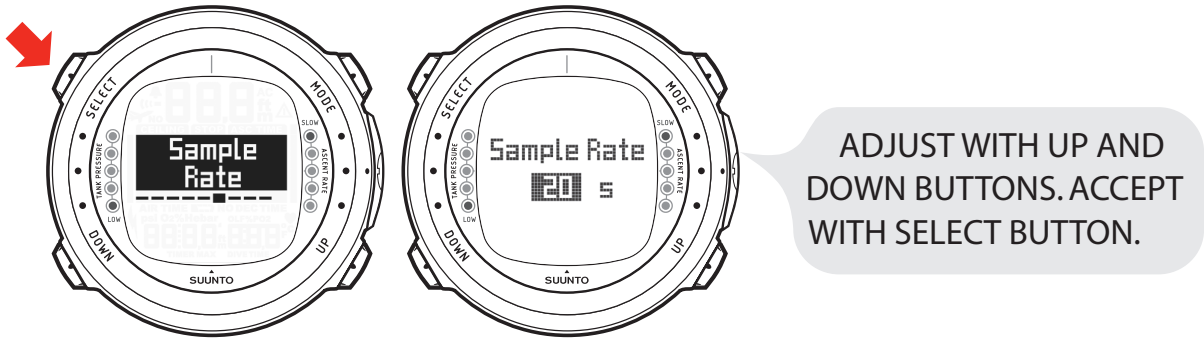


ADJUST WITH UP AND DOWN BUTTONS. ACCEPT WITH SELECT BUTTON.

5.8.9. Setting the sample rate

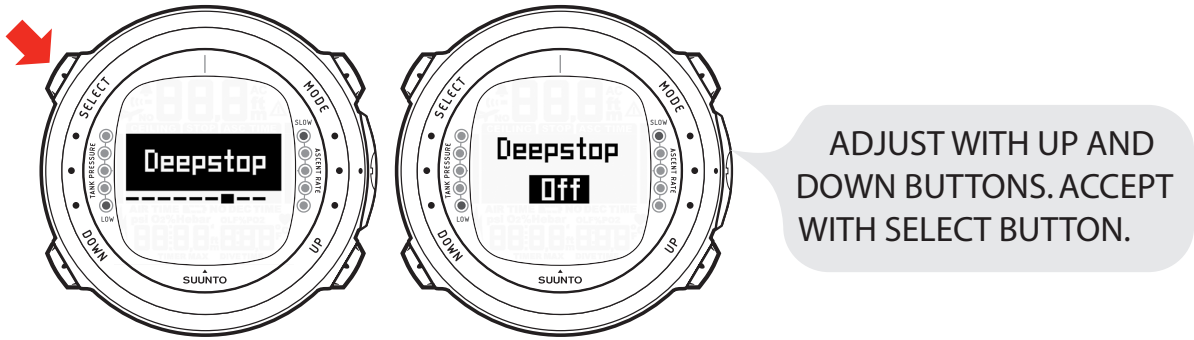
The Sample Rate setting controls how often the depth, tank pressure (if enabled), and water temperature is stored in the memory.

You can set the dive profile sample rate in free dive to 1, 2, or 5 seconds. The sample rate for nitrox and air dives is 10, 20, 30, or 60 seconds. The factory default setting is 20 seconds.



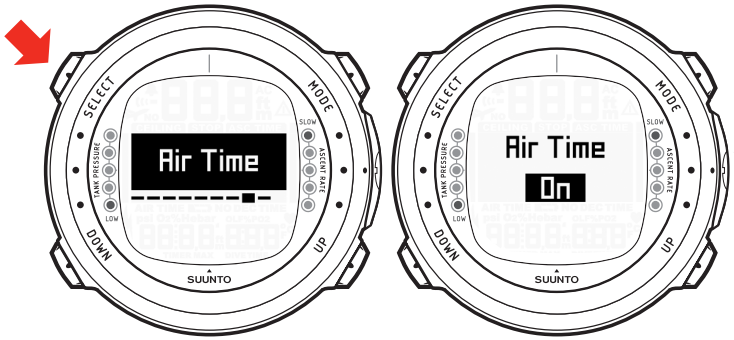
5.8.10. Setting the deep stops

In the AIR mode in the Deep Stops setting mode, the Deep stops can be set “ON” or “OFF” depending on whether the Deep stops are used or not.



5.8.11. Setting the air time

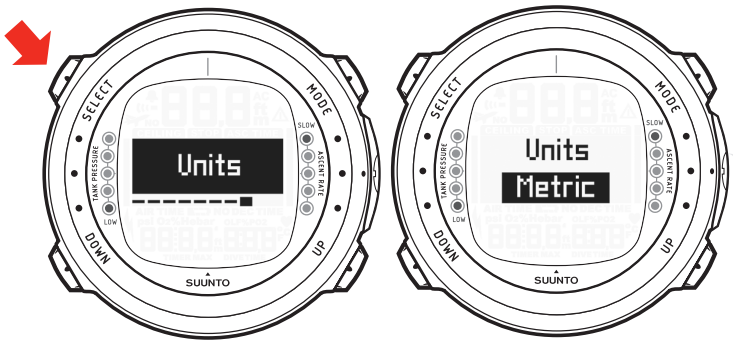
In the Air Time setting mode, the remaining air time display can be set "ON" or "OFF" depending on whether estimated remaining air time display is used or not. Air Time can only be displayed when the wireless tank pressure transmitter is in use.



ADJUST WITH UP AND DOWN BUTTONS. ACCEPT WITH SELECT BUTTON.

5.8.12. Setting the units

In the Unit settings you are able to choose between metric (meters/Celsius/bar) and imperial (feet/Fahrenheit/psi) units.



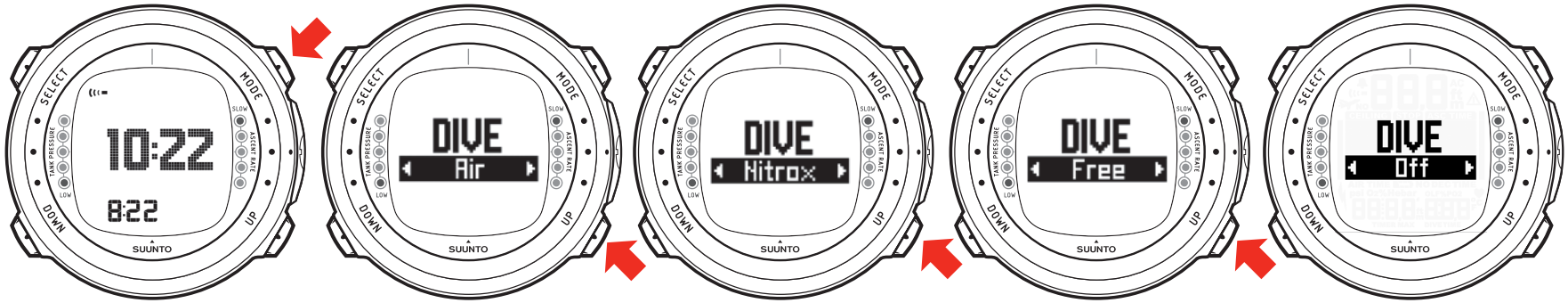
ADJUST WITH UP AND DOWN BUTTONS. ACCEPT WITH SELECT BUTTON.

5.9. Activation and pre-checks

This section describes how to activate the DIVE mode and explains the pre-checks that it is highly recommended you perform before you get into the water.

5.9.1. Accessing DIVE mode

The Suunto D4i has three diving modes: AIR mode for diving with standard air only, NITROX mode for diving with oxygen enriched mixtures, and FREE mode for freediving. There is also a Dive OFF mode for use during other water activities, such as swimming and surfing.



5.9.2. DIVE mode activation

Unless the DIVE mode is set OFF, the dive computer activates automatically when submerged deeper than 0.5 m/1.5 ft. **However, it is necessary to activate the DIVE mode BEFORE diving to check the altitude and personal adjustment settings, battery condition, oxygen settings, and so on.**

After activation, all graphical display elements are turned ON, and the backlight and the beep are activated. After this, the selected altitude and personal settings are displayed. A few seconds later the battery power indicator is shown, as well as the maximum operating depth (MOD, 66.2 m), O_2% (21%) and PO_2 (1.6) value. During a dive series (between two consecutive dives) the dive computer also displayes the current tissue saturation graph. A few seconds later the battery power indicator is shown.

WARNING

SUUNTO STRONGLY RECOMMENDS THAT SPORT DIVERS LIMIT THEIR MAXIMUM DEPTH TO 40 M /130 FT OR TO THE DEPTH CALCULATED BY THE COMPUTER BASED ON THE SELECTED O_2% AND A MAXIMUM PO_2 OF 1.4 BAR! Exposure to greater depths increases the risk of oxygen toxicity and decompression illness.

NOTE

If the Dive mode is set OFF, the unit does not activate automatically. Always check you use the correct Dive mode before entering the water.

A TISSUE SATURATION GRAPH IS DISPLAYED BETWEEN DIVES WHEN DIVE MODE IS ACTIVATED. ON X-AXIS THE FAST TISSUES ARE ON LEFT AND SLOW TISSUES ON RIGHT. ON Y-AXIS, CALCULATED PERCENTUAL TISSUE SATURATION VALUES BASED ON RGBM ARE SHOWN. Y-AXIS RANGES FROM 0% TO 100%. AS SURFACE TIME ELAPSES, TISSUE SATURATION PERCENTAGES DECREASE ACCORDINGLY.

At this time, perform your pre-checks, and ensure that:

- the instrument operates in the correct mode and provides a complete display (AIR/NITROX/FREE mode)
- the battery level is ok.
- the altitude, personal adjustment, Deep stops settings are correct.
- the instrument displays correct units of measurement (Metric/Imperial).
- the instrument displays the correct temperature and depth (0.0 m/0 ft).
- the alarm beeps.

If the optional wireless pressure transmitter is used ensure that:

- the pressure transmitter has been properly attached and the cylinder valve is open
- the transmitter and the wrist unit have been properly paired on a suitable code
- the pressure transmitter is working (flash symbol blinks, cylinder pressure is displayed), and that there is no low battery warning displayed
- you have enough air for your planned dive. You should also check the pressure reading against your back-up pressure gauge

And, if set to NITROX mode, ensure that:

- the correct oxygen percentage is adjusted according to the measured oxygen percentage in your cylinder
- the oxygen partial pressure limit is set correctly

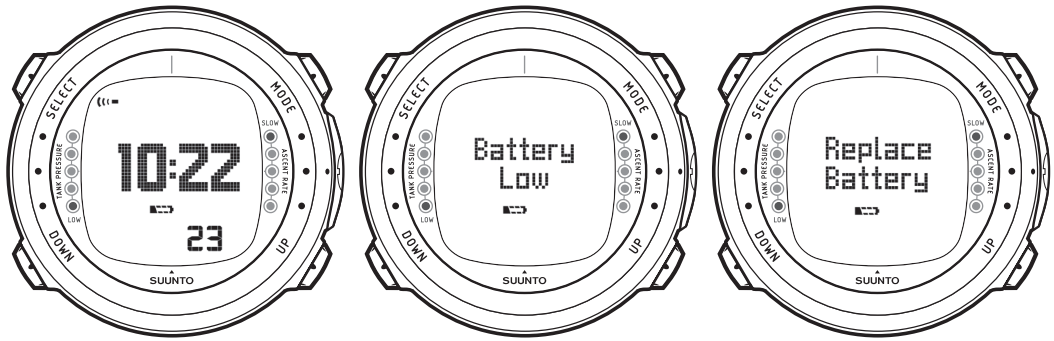
For more information on the NITROX mode, please refer to *Section 6.2. Diving in NITROX mode (DIVE Nitrox)*.

The dive computer is now ready for diving.

5.9.3. Battery power indication

Temperature or internal oxidation of the battery affect the battery voltage. If the instrument is stored for a long period, or used in cold temperatures, the low battery warning may be displayed even though the battery has enough capacity. In these cases, re-enter DIVE mode to receive the battery power indication.

After the battery check, the low battery warning is indicated by the battery symbol.



If the battery symbol is displayed in the Surface mode, or if the display is faded or weak, the battery may be too low to operate the dive computer, and battery replacement is recommended.

NOTE *For safety reasons, the backlight cannot be activated when the low battery warning is indicated by the battery symbol.*

The optional wireless pressure transmitter sends out a low battery (batt) warning when its battery voltage is getting low. This is shown intermittently instead of the pressure reading. When you get this warning, the tank pressure transmitter's battery needs to be replaced.

5.9.4. Diving at altitude

The dive computer can be adjusted both for diving at altitude and also to increase the conservatism of the mathematical nitrogen model.

When programming the instrument for the correct altitude, you need to select the correct Altitude Adjustment settings according to *Table 5.6, Altitude Adjustment settings*. The dive computer will adjust its mathematical model according to the entered altitude setting, giving shorter no-decompression times at higher altitudes.

For more information, see *Section 10.2.3. Altitude diving*.

Table 5.6. Altitude Adjustment settings

Alt. adjustment value	**Altitude range**
A0	0–300 m / 0–1000 ft
A1	300–1500 m / 1000–5000 ft
A2	1500–3000 m / 5000–10 000 ft

NOTE *Section 5.8.2. Setting the personal/altitude adjustments describes how the Altitude value is set.*

⚠ WARNING *Traveling to a higher elevation can temporarily cause a change in the equilibrium of dissolved nitrogen in the body. It is recommended that you acclimatize to the new altitude by waiting at least three (3) hours before diving.*

5.9.5. Personal adjustments

There are personal factors that can affect your susceptibility to DCI, which you can predict in advance, and input into the decompression model. Such factors vary between divers and also for the same diver from one day to another. There is available a three-step Personal Adjustment setting if a more conservative dive plan is desired.

The personal factors which tend to increase the possibility of DCI include, but are not limited to:

- cold exposure —water temperature less than 20 °C/68 °F
- below average physical fitness level
- fatigue
- dehydration
- previous history of DCI
- stress
- obesity
- patent foramen ovale (PFO)
- exercise on or after dive

This feature is used to adjust the computer to be more conservative, according to personal preference, by entering the suitable Personal Adjustment setting with the help of *Table 5.7, Personal Adjustment settings*. In ideal conditions, retain the default setting, P0. If conditions are more difficult, or any of the factors which tend to increase the possibility of DCI exist, select P1, or even the most conservative P2. The dive computer then adjusts its mathematical model according to the entered Personal Adjustment setting, giving shorter no-decompression times (refer to *Section 10.2.2. No-decompression limits for air*, *Table 10.1, No-decompression time limits for various depths (m)* and *Table 10.2, No-decompression time limits for various depths (ft)*).

Table 5.7. Personal Adjustment settings

Personal adjustment value	**Condition**	**Desired tables**
P0	Ideal conditions	Default
P1	Some risk factors or conditions exist	Progressively more conservative
P2	Several risk factors or conditions exist	

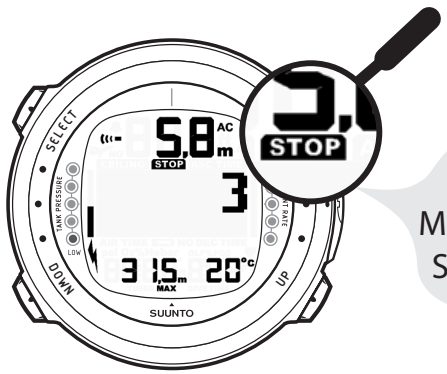
5.10. Safety Stops

Safety Stops are widely considered good diving practice for recreational diving, and are an integral part of most dive tables. The reasons for performing a Safety Stop include: reducing sub-clinical DCI, microbubble reduction, ascent control, and orientation before surfacing.

The Suunto D4i displays two different types of Safety Stops: Recommended Safety Stop and Mandatory Safety Stop.

5.10.1. Recommended Safety Stops

With every dive over 10 meters, there is a three-minute countdown for the Recommended Safety Stop, to be taken in the 3–6 m/10–20 ft range. This is shown with the STOP sign and a three-minute countdown in the center window instead of the no-decompression time.



WHEN STOP IS DISPLAYED, MAKE A RECOMMENDED SAFETY STOP FOR 3 MINUTES.

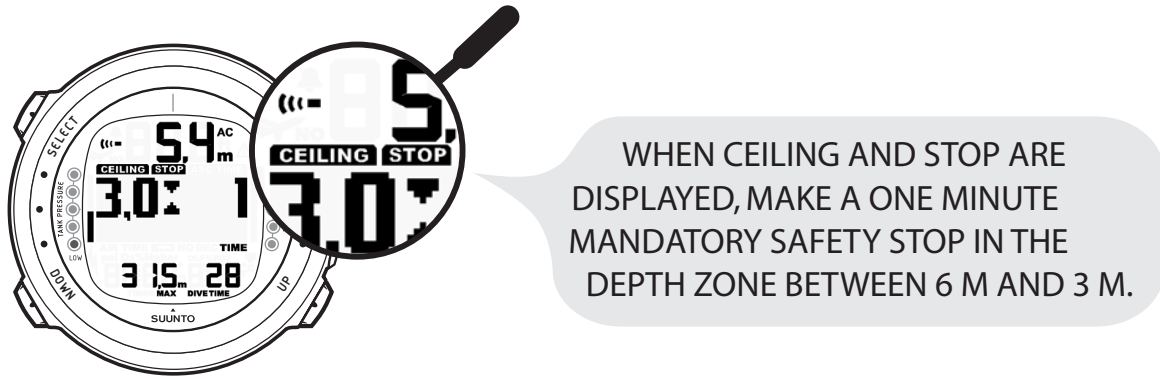
NOTE

The Recommended Safety Stop, as the name implies, is recommended. If it is ignored, there is no penalty applied to the following surface intervals and dives.

5.10.2. Mandatory Safety Stops

When the ascent rate exceeds 10 m/33 ft per minute continuously for more than five (5) seconds, the microbubble build-up is predicted to be more than is allowed for in the decompression model. The Suunto RGBM calculation model responds to this by adding a Mandatory Safety Stop to the dive. The time of this Mandatory Safety Stop depends on the severity of the ascent rate excess.

The STOP sign is shown in the display and when you reach the depth zone between 6 m and 3 m/20 ft and 10 ft, the CEILING label, ceiling depth, and the calculated Safety Stop time also appear in the display. Wait until the Mandatory Safety Stop warning disappears. The total length of the Mandatory Safety Stop time depends on the seriousness of the ascent rate violation.



You must not ascend shallower than 3 m/10 ft with the Mandatory Safety Stop warning on. If you ascend above the Mandatory Safety Stop ceiling, a downward pointing arrow will appear and a continuous beeping starts. You should immediately descend to, or below, the Mandatory Safety Stop ceiling depth. If you correct this situation at any time during the dive, there are no effects on the decompression calculations for future dives.

WHEN CEILING AND STOP ARE DISPLAYED WITH DOWNWARD POINTING ARROW, IMMEDIATELY (WITHIN 3 MINUTES) DESCEND TO OR BELOW CEILING.

If you continue to violate the Mandatory Safety Stop, the tissue calculation model is affected and the dive computer shortens the available no-decompression time for your next dive. In this situation, it is recommended that you prolong your surface interval time before your next dive.

5.11. Deep stops

Deep stops are safety stops that occur deeper than traditional stops, with the purpose of minimizing microbubble formation and excitation.

The Suunto RGBM model calculates deep stops iteratively, placing the first stop about halfway between the maximum depth and the ceiling depth. After the first Deep stop is completed, another Deep stop will be prompted halfway to the ceiling, and so on until the ceiling depth is reached.

DURING DESCENT, YOU'RE SHOWN THAT A DEEPSTOP IS NEEDED AT THE DEPTH OF 16 M.

DURING ASCENT, YOU'RE ADVICED TO MAKE A DEEP STOP AT 16 M FOR THE DURATION SHOWN BY THE TIMER (42 S REMAINING).

If a deep stop is violated, it does not cause the dive computer to go into an error (Er) mode. However, a penalty time is added to the subsequent decompression.

NOTE *With Deep Stops ON, the Recommended Safety Stops will still be activated at the end of the dive.*

6. DIVING

This section contains instructions on how to operate the dive computer and interpret its displays. The dive computer is easy to use and read. Each display shows only the data relevant to that specific diving mode.

6.1. Diving in the AIR mode (DIVE Air)

This section contains information on diving with standard air. To activate the DIVE Air mode, please refer to *Section 5.9.1. Accessing DIVE mode*.

NOTE

The dive computer will remain in the SURFACE mode at depths less than 1.2 m/4 ft. At depths greater than 1.2 m/4 ft the instrument will go into the DIVE mode automatically. However, it is recommended that you activate the SURFACE mode manually before entering the water in order to perform the necessary dive pre-checks.

NOTE

The default fields shown on your dive computer in the DIVE mode are the ones you select while in the SURFACE mode.

6.1.1. Basic dive data

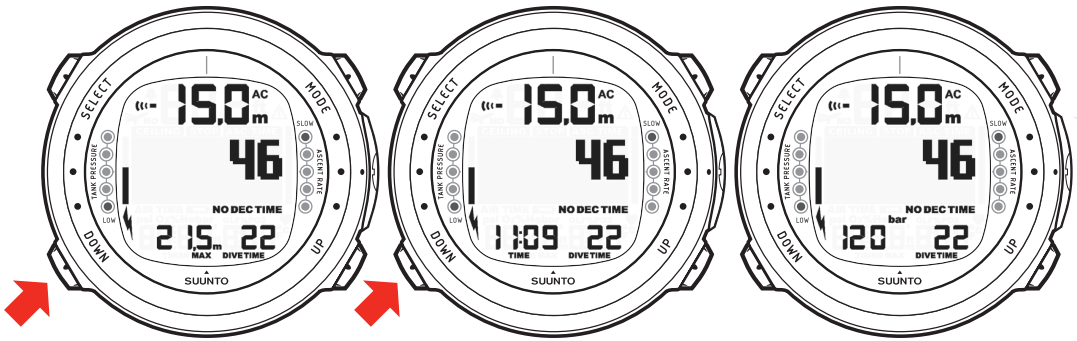
During a No-decompression dive, the following information is displayed:

- your present depth in meters/feet
- the available no-decompression time in minutes as NO DEC TIME
- the ascent rate presented as a bar graph on the right side

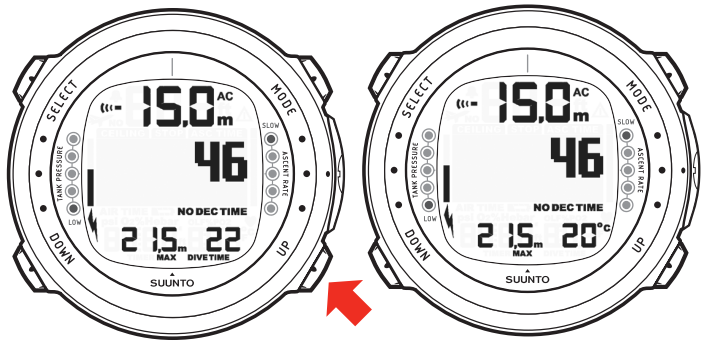
DIVE DISPLAY - PRESENT DEPTH IS 15 M, NO-DECOMPRESSION STOP TIME LIMIT 46 MIN. MAXIMUM DEPTH DURING THIS DIVE WAS 21.5 M, ELAPSED DIVE TIME 22 MIN.

Alternative displays, by pressing the UP/DOWN buttons, show:

- the elapsed dive time in minutes, shown as DIVE TIME
- the water temperature in °C/°F
- the maximum depth during this dive in meters/feet, indicated as MAX
- the current time, shown as TIME



DOWN BUTTON TOGGLES BETWEEN MAXIMUM DEPTH, CURRENT TIME AND TANK PRESSURE.



UP BUTTON TOGGLES BETWEEN DIVE TIME AND WATER TEMPERATURE.

In addition, with the optional wireless transmission enabled:

- the Remaining Air time in the left center window indicated as AIR TIME (Air Time must be set ON)
- the cylinder pressure in bar (or psi) displayed in the lower left corner
- the cylinder pressure graphically displayed on the left side

6.1.2. Bookmark

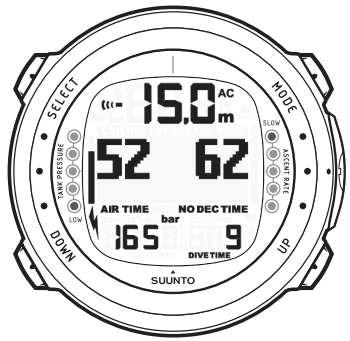
It is possible to record bookmarks in the profile memory during a dive. These bookmarks are displayed when scrolling the profile memory on the display. The bookmarks are also shown as annotations in the downloadable Suunto DM4 software.

To make a bookmark in the profile memory during a dive, press the SELECT button. A brief confirmation will be given.

A BOOKMARK IS PLACED IN THE PROFILE MEMORY DURING A DIVE BY PRESSING THE SELECT BUTTON.

6.1.3. Tank pressure data

When using the optional wireless pressure transmitter, the pressure of your scuba cylinder in bars (or psi) is shown digitally in the lower left corner of the alternative display. Whenever you start a dive, the remaining air time calculation begins. After 30–60 seconds (sometimes more, depending on your air consumption), the first estimation of remaining air time is shown in the left center window of the display. The calculation is always based on the actual pressure drop in your cylinder and automatically adapts to your cylinder size and current air consumption.



CURRENT TANK PRESSURE IS 165 BAR AND THE REMAINING AIR TIME IS 52 MINUTES.

The change in your air consumption is based on constant one second interval pressure measurements over 30–60 second periods. An increase in air consumption influences the remaining air time rapidly, while a drop in air consumption increases the air time slowly. In this way, an over optimistic air time estimation, caused by a temporary drop in air consumption, is avoided.

The remaining air time calculation includes a 35 bar/500 psi safety reserve. This means that when the instrument shows the air time to be zero, there is still about 35 bar/500 psi of pressure left in your cylinder, depending on your air consumption rate. With a high consumption rate, the limit will be closer to 50 bar/700 psi and with a low rate closer to 35 bar/500 psi.

NOTE *Filling your BCD affects the air time calculation due to the temporary increase in air consumption.*

NOTE *The remaining air time is not displayed when either deep stops or the decompression ceiling have been activated. You can recall the remaining air time by long-pressing the DOWN button, but the ceiling disappears.*

NOTE *A change of temperature will affect the cylinder pressure and consequently the air time calculation.*

NOTE *If the air time is turned OFF, the air time is not displayed and no alarm of air time reaching zero is issued.*

Low Air Pressure Warnings

The dive computer will warn you with two (2) audible double beeps and a blinking pressure display when the cylinder pressure reaches 50 bar/700 psi.

Two (2) double beeps are also heard when the cylinder pressure goes down to the user-selected alarm pressure, and when the remaining time reaches zero.

6.1.4. Ascent rate indicator

The ascent rate is displayed graphically along the right hand side with a vertical bar. When the maximum allowed ascent rate is exceeded, the lower segment of the bar starts to blink with the top segment staying solid, indicating that the maximum ascent rate has been exceeded.

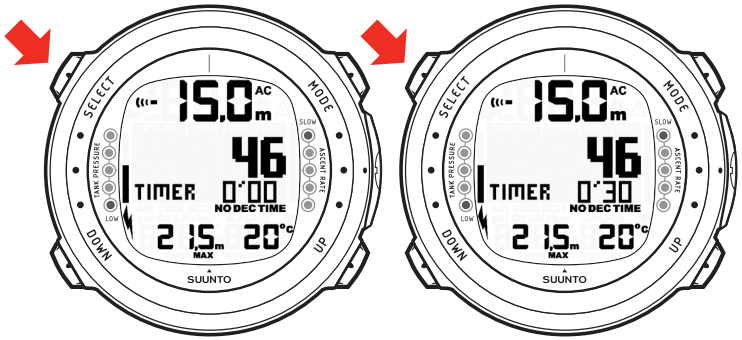
Continuous ascent rate violations will result in Mandatory Safety Stops. When Recommended Deep Stop is enabled, the length is indicated in seconds.

NORMAL ASCENT RATE.
ACTIVATED BACKLIGHT, ALARM AND A BLINKING ASCENT RATE BAR GRAPH INDICATE YOU ARE ASCENDING FASTER THAN 10 M/MIN. YOU ARE ADVISED TO MAKE A MANDATORY SAFETY STOP WHEN YOU REACH A DEPTH OF 6 M.

⚠ WARNING *DO NOT EXCEED THE MAXIMUM ASCENT RATE! Rapid ascents increase the risk of injury. You should always make the Mandatory and Recommended Safety Stops after you have exceeded the maximum recommended ascent rate. If this Mandatory Safety Stop is not completed, the decompression model will penalize your next dive(s).*

6.1.5. Stopwatch (Timer)

You can also use a stopwatch during diving for various timing purposes. To activate the stopwatch in the DIVE AIR or NITROX mode, long-press the MODE button, then start and stop it by short-pressing the SELECT button.



6.1.6. Decompression dives

When your NO DEC TIME becomes zero, your dive changes into a decompression dive. Therefore, you must perform one or more decompression stops on your way to the surface. The NO DEC TIME on your display will be replaced by an ASC TIME, and a CEILING notation will appear. An upward pointing arrow will also prompt you to start your ascent.

If you exceed the no-decompression limits on a dive, the dive computer will provide the decompression information required for ascent. After this, the instrument will continue to provide subsequent interval and repetitive dive information.

Rather than requiring you to make stops at fixed depths, the dive computer lets you decompress within a range of depths (continuous decompression).

The ascent time (ASC TIME) is the minimum amount of time needed to reach the surface in a decompression dive. It includes:

- the time needed at the deep stop
- the time needed to ascend to the ceiling at an ascent rate of 10 m/33 ft per minute. The ceiling is the shallowest depth to which you should ascend.
- the time needed at the ceiling

- the time needed at the Mandatory Safety Stop (if any)
- the time needed to reach the surface after the ceiling and Safety Stops have been completed

⚠ WARNING

YOUR ACTUAL ASCENT TIME MAY BE LONGER THAN DISPLAYED BY THE INSTRUMENT! The ascent time will increase if you:

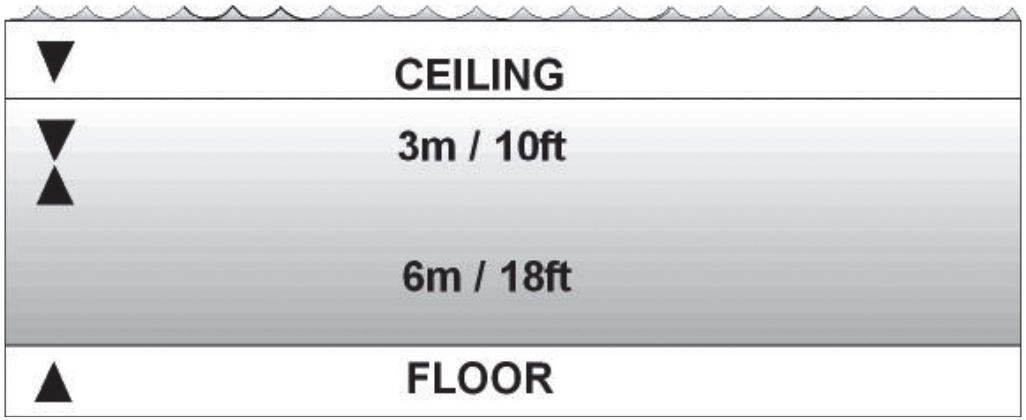
- *remain at depth*
- *ascend slower than 10 m/33 ft per minute or*
- *make your decompression stop deeper than at the ceiling*

These factors will also increase the amount of air required to reach the surface.

Ceiling, ceiling zone, floor and decompression range

When in decompression, it is important that you understand the meaning of ceiling, floor, and decompression range.

- The ceiling is the shallowest depth to which you should ascend when in decompression. At this depth, or below, you must perform all stops.
- The ceiling zone is the optimum decompression stop zone. It is the zone between the minimum ceiling and 1.2 m/4 ft below the minimum ceiling.
- The floor is the deepest depth at which the decompression stop time will not increase. Decompression will start when you pass this depth during your ascent.
- The decompression range is the depth range between the ceiling and floor. Within this range, decompression takes place. However, it is important to remember that the decompression will be very slow at, or close to, the floor.



The depth of the ceiling and floor depends on your dive profile. The ceiling depth will be fairly shallow when you enter the decompression mode, but if you remain at depth, it will move downward and the ascent time will increase. Likewise, the floor and ceiling may change upwards while you are decompressing.

When conditions are rough, it may be difficult to maintain a constant depth near the surface. In such cases, it is more manageable to maintain an additional distance below the ceiling, to ensure that the waves do not lift you above the ceiling. Suunto recommends that decompression takes place deeper than 4 m/13 ft, even if the indicated ceiling is shallower.

NOTE *It will take more time and more air to decompress below the ceiling than at the ceiling.*

WARNING *NEVER ASCEND ABOVE THE CEILING! You must not ascend above the ceiling during your decompression. In order to avoid doing so by accident, you should stay somewhat below the ceiling.*

Display below the floor

The blinking ASC TIME sign and an upward pointing arrow indicate that you are below the floor. You should start your ascent immediately. The ceiling depth is shown on the left side, and the minimum total ascent time on the right side of the center window. Below is an example of a decompression dive without Deep Stops, below the floor.

UPWARD POINTING ARROW, BLINKING ASC TIME AND AN ALARM TELL YOU TO ASCEND. MINIMUM TOTAL ASCENT TIME INCLUDING SAFETY STOP IS 9 MINUTES. CEILING IS AT 3 M.

Display above the floor

When you ascend above the floor, the ASC TIME sign stops blinking and the upward pointing arrow disappears. Below is an example of a decompression dive above the floor.

UPWARD POINTING ARROW HAS DISAPPEARED AND ASC TIME LABEL HAS STOPPED BLINKING, MEANING YOU ARE IN THE DECOMPRESSION RANGE.

Decompression will now begin, but is very slow. Therefore, you should continue your ascent.

Display at the ceiling zone

When you reach the ceiling zone, the display will show you two arrows pointing at each other (the “hour glass” icon). Below is an example of a decompression dive at the ceiling zone.

TWO ARROWS POINT AT EACH OTHER “HOUR GLASS”. YOU ARE IN THE OPTIMUM CEILING ZONE AT 3 M AND YOUR MINIMUM ASCENT TIME IS 9 MINUTES.

During the decompression stop, ASC TIME will count down towards zero. When the ceiling moves upwards, you can ascend to the new ceiling. You may surface only after the ASC TIME and CEILING labels have disappeared, which means that the decompression stop and any Mandatory Safety Stop have been completed. You are advised, however, to stay until the STOP sign has also disappeared. This indicates that the three (3) minute Recommended Safety Stop has also been completed.

Display above the ceiling

If you ascend above the ceiling during a decompression stop, a downward pointing arrow will appear and a continuous beeping starts.

DECOMPRESSION DIVE, ABOVE CEILING. NOTE DOWNWARD POINTING ARROW, ER WARNING AND ALARM. YOU SHOULD IMMEDIATELY (WITHIN 3 MINUTES) DESCEND TO OR BELOW CEILING.

In addition, an Error warning (Er) reminds you that you have only three (3) minutes to correct the situation. You must immediately descend to, or below, the ceiling.

If you continue to violate the decompression, the dive computer will go into a permanent Error Mode. In this mode, the instrument can only be used as a depth gauge and timer. You must not dive again for at least 48 hours (refer to *Section 5.6. Error conditions*).

6.2. Diving in NITROX mode (DIVE Nitrox)

The NITROX mode (DIVE Nitrox) is the second dive mode available in Suunto D4i and is used when using oxygen-enriched gas mixtures.

6.2.1. Before diving in the NITROX mode

If set to the NITROX mode, the correct oxygen percentage of the gas in your cylinder must always be entered into the computer to ensure correct nitrogen and oxygen calculations. The dive computer adjusts its mathematical nitrogen and oxygen calculation models accordingly. The dive computer will not accept fractional percentage values of oxygen concentration. Do not round up fractional percentages. For example, 31.8% oxygen should be entered as 31%. Rounding up will cause nitrogen percentages

to be understated and will affect decompression calculations. If you want to adjust the computer to provide more conservative calculations, use the personal adjustment feature to affect decompression calculations, or reduce the PO_2 setting to affect oxygen exposure according to the entered O_2% and PO_2 values. Calculations based on nitrox use result in longer no-decompression times and shallower maximum depths than diving with air.

NOTE *As a safety precaution, the oxygen calculations in the dive computer are made with an oxygen percentage of 1% + set O_2%.*

When the dive computer is set in NITROX mode, the Dive Planning mode calculates using the O_2% and PO_2 values that are currently in the computer.

To set the nitrox mixes, refer to *Section 5.8.1. Setting the nitrox values* .

Default nitrox settings

In the NITROX mode, the Suunto D4i allows you to set a nitrox mix containing 21–50% oxygen.

In the NITROX mode, the default setting is standard air (21% O_2). It remains in this setting until the O_2% is adjusted to any other percentage of oxygen (22%–50%). The default setting for maximum oxygen partial pressure is 1.4 bar, however you are able to set it in the range of 0.5–1.6 bar.

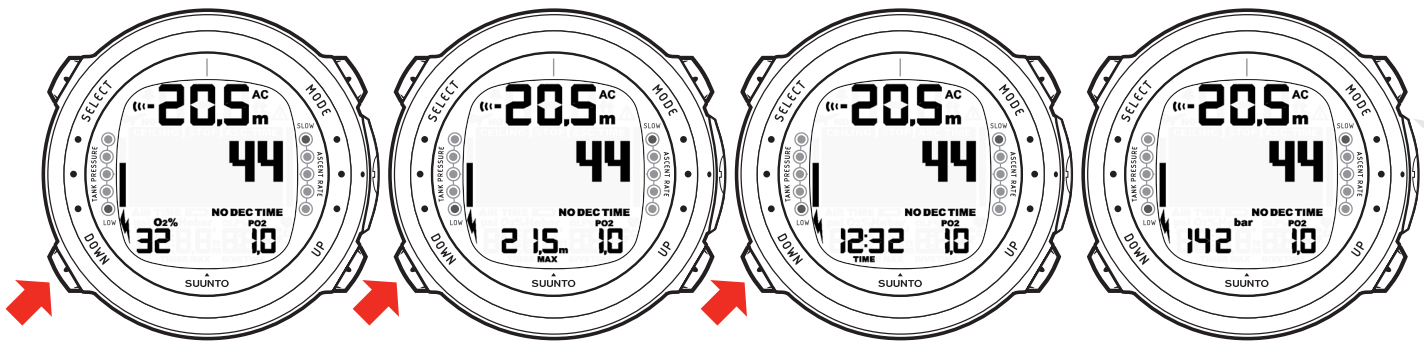
6.2.2. Oxygen displays

When the NITROX mode is activated, the display will show the information in the figure below. In the NITROX mode, the maximum operational depth is calculated based on set O_2% and PO_2 values.

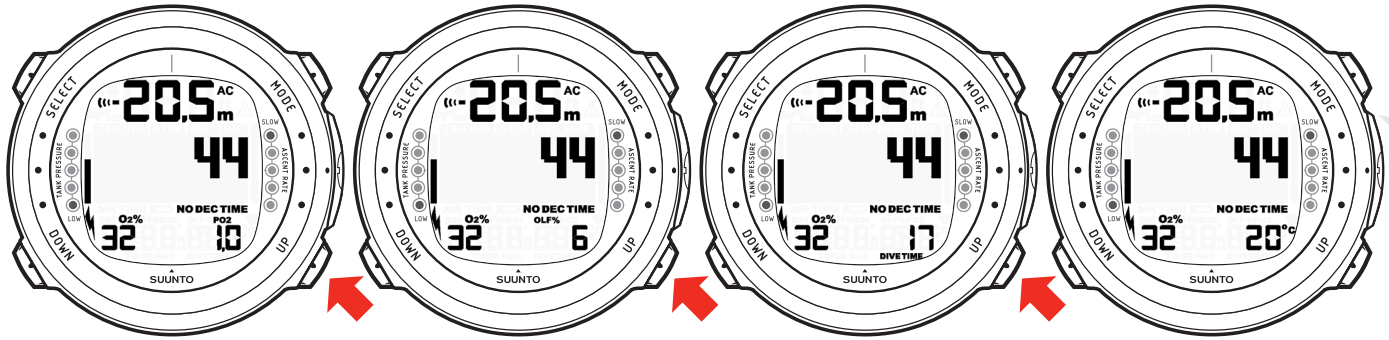
NITROX DIVE MODE ACTIVATION.
MAXIMUM OPERATIONAL DEPTH BASED ON SET O_2 % (21%) AND PO2 (1.4 BAR) IS 53.6 M.

If set to the NITROX mode, the Suunto D4i will additionally show on the alternative display:

- the oxygen percentage, labeled O_2%
- the set oxygen partial pressure limit, labeled PO_2
- the current oxygen toxicity exposure, labeled OLF%
- maximum depth
- current time
- water temperature
- dive time
- tank pressure



DOWN BUTTON TOGGLES BETWEEN O_2, MAXIMUM DEPTH CURRENT TIME AND TANK PRESSURE.



6.2.3. Oxygen limit fraction (OLF%)

If set to the NITROX mode, in addition to tracking the diver's exposure to nitrogen, the instrument tracks the exposure to oxygen. These calculations are treated as entirely separate functions.

The dive computer calculates separately for Central Nervous System oxygen toxicity (CNS) and Pulmonary Oxygen toxicity, the latter measured by the addition of Oxygen Toxicity Units (OTU). Both fractions are scaled so that the maximum tolerated exposure for each is expressed as 100%.

The Oxygen Limit Fraction (OLF%) displays only the value of the higher of the two calculations. The oxygen toxicity calculations are based on the factors listed in *Section 10.3. Oxygen exposure*.

6.3. Diving in the FREE mode (DIVE Free)

If set to the FREE mode, the dive computer can be used as a free diving instrument.

In the FREE mode, the total dive time is always displayed in minutes and seconds (mm:ss) in the center window.

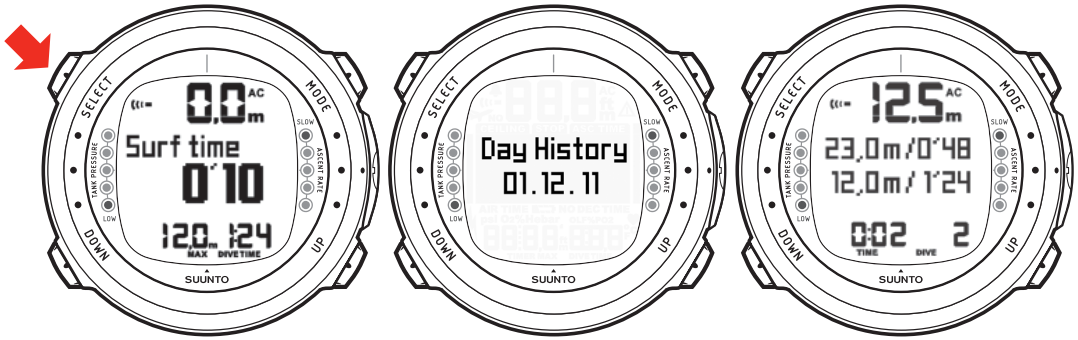
The free dive ends as soon as you surface (at 0.5 m/ 1.6 ft).

NOTE *The FREE mode does not provide decompression information.*

NOTE *There is no ascent rate monitoring in the FREE mode.*

6.3.1. Day History

The Day History function shows the free dive history of your latest diving day. In the SURFACE mode you can enter the Day History by pressing the SELECT button.



The Day History function shows the average depth of all dives, the deepest depth of the day as well as the time, the longest dive, and the cumulative dive time in hours and minutes, as well as the number of dives made during the day.

NOTE *The first dive of the next day will reset the Day History function and start a new one.*

6.3.2. Free dive time limit

The FREE mode has a time limit of 10 minutes. After 10 minutes, Suunto D4i will automatically change from Free Dive to Scuba Bottom Timer. After the dive, the no-fly time will countdown from 48 hours. Also, you will not be able to dive in AIR or NITROX modes until the no-fly time has counted down to zero. You can only set the DIVE mode to OFF.

NOTE *If you want to dive in AIR or NITROX mode after diving in FREE mode, remember to switch to the correct mode. Otherwise, the free dive time limit will activate after 10 minutes.*

7. AFTER DIVING

Once back at the surface, Suunto D4i continues to provide post-dive safety information and alarms. Calculations to enable repetitive dive planning also help to maximize diver safety.

Table 7.1. Alarms

Symbol on display	Indication
⚠	Diver Attention Symbol - Extend Surface Interval
Er	Violated Decompression Ceiling or Too Long Bottom Time
NO	Do Not Fly Symbol

7.1. Surface interval

An ascent to any depth shallower than 1.2 m/4 ft (0.5 m/1.6 ft in FREE mode) will cause the DIVE display to be replaced by the SURFACE display:

IT IS 6 MINUTES SINCE YOU SURFACED FROM A 35-MINUTE DIVE. THE MAXIMUM DEPTH WAS 21.5 M. THE PRESENT DEPTH IS 0.0 M. THE AIRPLANE SYMBOL AND NO-FLY VALUE INDICATE THAT YOU SHOULD NOT FLY FOR 14 HOURS, 28 MINUTES. THE DIVER ATTENTION SYMBOL INDICATES THAT YOU SHOULD PROLONG YOUR SURFACE INTERVAL TIME.

Or, in the alternative displays, the following information will be shown:

- maximum depth of last dive in meters/feet
- dive time of last dive in minutes, shown as DIVE TIME
- the current time, shown as TIME
- the current temperature in °C/°F
- cylinder pressure in bar/psi (if enabled)

If set to NITROX mode, the following information will also be shown:

- the oxygen percentage labeled O_2%
- the oxygen partial pressure labeled PO_2
- the current oxygen toxicity exposure labeled OLF%

7.2. Dive numbering

Several repetitive dives are considered to belong to the same repetitive dive series when the dive computer has not counted the no-fly time to zero. Within each series, the dives are given individual numbers. The first dive of the series will be numbered as DIVE 1, the second as DIVE 2, the third as DIVE 3, and so on.

If you start a new dive with less than five (5) minutes of surface interval time, the dive computer interprets this as a continuation of the previous dive and the dives are considered to be the same. The diving display will return, the dive number will remain unchanged, and the dive time will begin where it left off. After five (5) minutes on the surface, subsequent dives are, by definition, repetitive. The dive counter displayed in the Planning mode will increment to the next number if another dive is made.

7.2.1. FREE Dive

Each dive series includes dives that have been performed during one day. The day's dive numbering and latest dive information resets to 0 at midnight, and each day there is a new series of dives that is recorded in the log book.

The dive is completed once you ascend beyond 0.5 m. A new dive will be registered in the log book immediately you descend once again.

7.3. Repetitive dive planning

The Suunto D4i includes a dive planner that allows you to review the no-decompression limits on a subsequent dive, taking the residual nitrogen loading of previous dives into consideration. The DIVE PLANNING mode is explained in *Section 7.5. DIVE PLANNING mode (PLAN NoDec)*.

7.4. Flying after diving

In the DIVE mode, the no-fly time is displayed in the center window next to the airplane image. In the TIME mode, the airplane image is shown in the top left corner. The no-fly time is displayed on the bottom row. Flying or traveling to a higher altitude should be avoided at any time when the computer is counting down the no-fly time.

The no-fly time is always at least 12 hours, or equivalent to the so-called desaturation time (if longer than 12 hours). For desaturation times lower than 70 minutes, no no-fly time is given.

In the Permanent Error mode and GAUGE mode (if the free dive has exceeded 10 minutes), the no-fly time is 48 hours.

The Divers Alert Network (DAN) recommends the following on no-fly times:

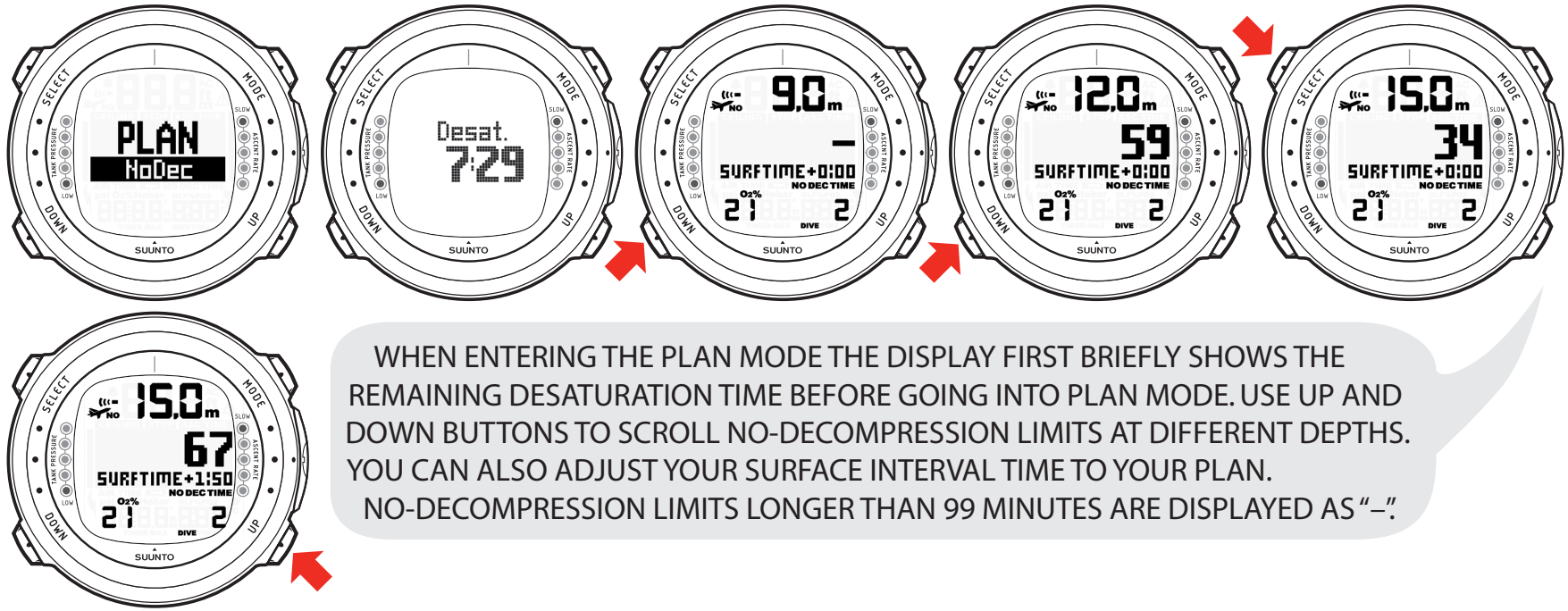
- A minimum surface interval of 12 hours would be required in order to be reasonably assured a diver will remain symptom free upon ascent to altitude in a commercial jetliner (altitude up to 2,400 m/8,000 ft).
- Divers who plan to make daily, multiple dives for several days, or make dives that require decompression stops, should take special precautions and wait for an extended interval beyond 12 hours before a flight. Further, the Undersea and Hyperbaric Medical Society (UHMS) suggests divers using standard air cylinders and exhibiting no symptoms of decompression illness wait 24 hours after their last dive to fly in an aircraft with cabin pressure up to 2,400 m/8,000 ft. The only two exceptions to this recommendation are:
  - If a diver has less than two (2) hours total accumulated dive time in the last 48 hours, a 12 hour surface interval before flying is recommended.
  - Following any dive that required a decompression stop, flying should be delayed for at least 24 hours, and if possible, for 48 hours.
- Suunto recommends that flying is avoided until all the DAN and UHMS guidelines, as well as the dive computer's no-fly conditions, are satisfied.

7.5. DIVE PLANNING mode (PLAN NoDec)

The DIVE PLANNING mode displays no-decompression times for a new dive, taking into account the effects of previous dives.

When entering the DIVE PLANNING mode (PLAN NoDec) mode, the display first briefly shows the remaining desaturation time before going into plan mode.

By pressing the UP/DOWN buttons, you can scroll the no-decompression limits in 3 m/10 ft increments ending at 45 m/150 ft. No-decompression limits longer than 99 minutes are displayed as “—“. During a dive series (between two consecutive dives) it is also possible to enter the surface interval time as a planning parameter.



WHEN ENTERING THE PLAN MODE THE DISPLAY FIRST BRIEFLY SHOWS THE REMAINING DESATURATION TIME BEFORE GOING INTO PLAN MODE. USE UP AND DOWN BUTTONS TO SCROLL NO-DECOMPRESSION LIMITS AT DIFFERENT DEPTHS. YOU CAN ALSO ADJUST YOUR SURFACE INTERVAL TIME TO YOUR PLAN. NO-DECOMPRESSION LIMITS LONGER THAN 99 MINUTES ARE DISPLAYED AS “–”.

The Planning mode takes into account the following information from previous dives:

- any calculated residual nitrogen
- all dive history for the past four days

The no-decompression times given for different depths will therefore be shorter than before your first “fresh” dive.

You can exit the DIVE PLANNING mode by pressing the MODE button.

NOTE *The DIVE PLANNING mode is disabled in FREE mode and in Error mode (see Section 5.6. Error conditions).*

Higher Altitude and conservative Personal Adjustment settings will shorten the no-decompression time limits. These limits at different Altitude and Personal Adjustment setting selections are explained in *Section 5.9.4. Diving at altitude* and in *Section 5.9.5. Personal adjustments*.

7.5.1. Dive numbering shown during dive planning

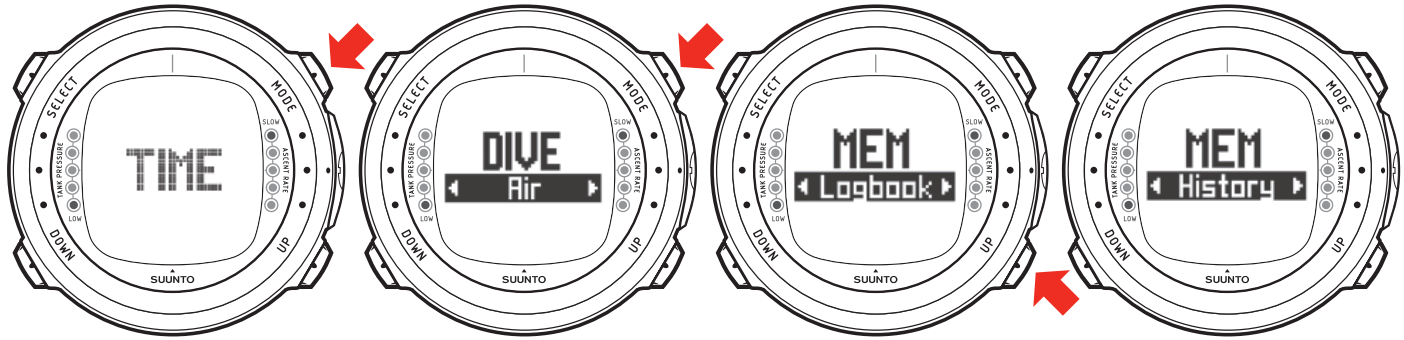
Dives belong to the same repetitive dive series if the instrument was still counting down the no-fly time at the beginning of the dive.

The surface interval must be at least five (5) minutes for a dive to be considered a repetitive dive. Otherwise, it is considered a continuation of the same dive. The dive number will not change and the dive time will continue where it left off. (Refer also to *Section 7.2. Dive numbering*).

7.6. MEMORY mode

The memory options in the MEMORY mode include dive logbook (MEM Logbook) and dive history (MEM History). They are accessed from the DIVE mode and you can toggle between them by using the UP/DOWN buttons.

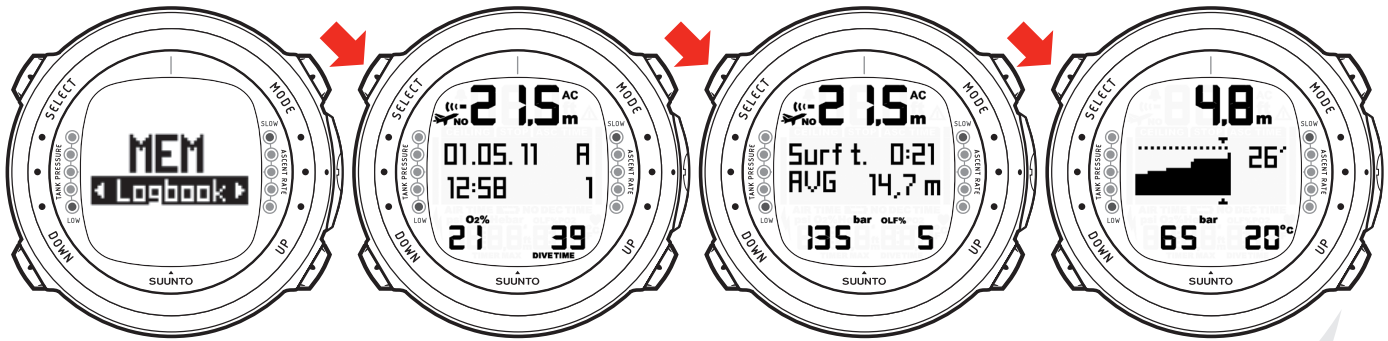
The dive entry time and date is registered in the Logbook memory. Always check before diving that the time and date are correctly set, especially after travelling between different time zones.



7.6.1. Dive logbook (MEM Logbook)

The Suunto D4i has a very sophisticated, high capacity Logbook and Profile Memory. The data is recorded in the profile memory based on the selected sample rate.

The END OF LOGS text is displayed between the oldest and most recent dive. The following information will be shown on three pages:



THERE ARE THREE PAGES OF LOGBOOK DIVE INFORMATION. USE SELECT BUTTON TO SCROLL BETWEEN LOGBOOK PAGES I, II, AND III. THE DATA OF THE MOST RECENT DIVE IS SHOWN FIRST. YOU CAN SCROLL THE GRAPHICAL DIVE PROFILE ON PAGE III WITH UP BUTTON.

Page I, main display

- maximum depth
- date of dive
- type of dive (AIR, NITROX, FREE, bottom timer (G))
- dive start time
- dive number
- oxygen percentage
- total dive time (in minutes in AIR and NITROX modes, and minutes and seconds in FREE mode)

Page II

- maximum depth
- average depth
- consumed pressure (if enabled)
- warnings

Page III

- graphical dive profile
- water temperature
- tank pressure (if enabled)

NOTE *Memory capacity depends on the selected sample rate. With factory default setting (20 s) and without transmitter data the capacity is approximately 140 hours. With transmitter data the capacity is minimum 35 hours. In Dive Free mode the maximum memory capacity is 35 hours. After that, when new dives are added, the oldest dives are deleted. The contents of the memory will remain when the battery is changed (providing that the battery has been replaced according to the instructions).*

NOTE *Several repetitive dives are considered to belong to the same repetitive dive series if the no-fly time has not ended. See Section 7.2. Dive numbering for further information.*

NOTE *Depending on the sampling rate, the maximum depth reading may differ from the maximum depth reading of the Dive History up to 0.3 m/1 ft.*

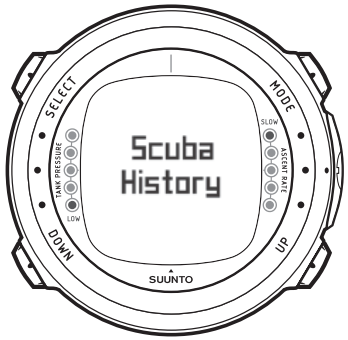
7.6.2. Dive history (MEM History)

The dive history is a summary of all the dives recorded by the dive computer.

You can view both your scuba and free dive history.

Scuba History

The Scuba History can hold a maximum of 999 dives and 999 diving hours. When these maximum values are reached, the counters will start again from zero.



SCUBA DIVE HISTORY DISPLAY. TOTAL NUMBER OF DIVES, DIVE HOURS AND MAXIMUM DEPTH.

NOTE

You can reset the maximum depth of scuba dives to 0.0 m/0 ft with the PC-Interface cable and the downloadable Suunto DM4 software.

Free Dive History

The Free Dive History shows the deepest and the longest dives of all free dives, and the cumulative dive time in hours and minutes, as well as the total number of dives.

The Free Dive History can hold a maximum of 999 dives and 99 diving hours 59 minutes. When these maximum values are reached, the counters will start again from zero.

The Free Dive history gathers history of the entire sequence of free dives. Unlike the day history, the Free Dive History is not reset.

7.7. Suunto DM4

The Suunto DM4 is an optional software that greatly enhances the functionality of your Suunto D4i. With the DM4 software, you can download dive data from your dive computer to your laptop. After that, you can view and organize all the data recorded with your Suunto D4i. You can plan dives (with Suunto Dive Planner), print copies of your dive profiles, and also upload your dive logs to share with your friends at *http://www.movescount.com* (see *Section 7.8. Movescount*). You can always download the latest version of the DM4 from *http://www.suunto.com*. Please check for updates regularly as new features are constantly being developed. The following data is transferred from your dive computer to your laptop (optional, cable required):

- depth profile of the dive
- dive time
- preceding surface interval time
- dive number
- dive start time (year, month, day, and time)
- dive computer settings
- oxygen percentage settings and maximum OLF (in the NITROX mode)
- tissue calculation data
- real-time water temperature
- tank pressure data (if enabled)

- additional dive information (for example, SLOW and Mandatory Safety Stop violations, Diver Attention Symbol, Bookmark, Surfaced Mark, Decompression Stop Mark, and Ceiling Error Mark)
- dive computer serial number
- personal information (30 characters)

By using the DM4, you are able to enter setup options such as:

- input a personal, 30-character field into the Suunto instrument.
- manually add comments, multimedia and other personal information to the PC-based dive data files

7.8. Movescount

Movescount is an online sports community that offers you a rich set of tools to manage all you sports and create engaging stories about your diving experiences. Movescount offers you new ways to get inspired and share your best dives with other community members!

To connect to Movescount:

1. Go to *www.movescount.com*.
2. Register and create your free Movescount account.
3. Download and install the Suunto DM4 software from the Movescount.com website if you do not already have the DM4 installed on your laptop

To transfer data:

1. Connect your dive computer to your laptop.
2. Download your dives to the DM4 on your laptop.

3. Follow the instructions on the DM4 on how to transfer your dives to your Movescount.com account.

8. CARE AND MAINTENANCE OF MY SUUNTO DIVING COMPUTER

The SUUNTO dive computer is a sophisticated precision instrument. Although it is designed to withstand the rigors of scuba diving, you must treat it with the same proper care and caution as any other precision instrument.

- WATER CONTACTS AND PUSH BUTTONS

  Contamination or dirt on the water contacts/connector or push buttons may prevent the automatic activation of the Dive Mode and cause problems during the data transfer. Therefore, it is important that the water contacts and push buttons are kept clean. If the water contacts are active (AC text remains on display) or the Dive Mode activates on its own, the reason for this is probably contamination or invisible marine growth, which may create an electric current between the contacts. It is important that the dive computer is carefully washed in fresh water after the day's diving is completed. The contacts can be cleaned with fresh water and, if necessary, a mild detergent and a soft brush. Sometimes it might be necessary to remove the instrument from the protective boot for cleaning.
- CARE OF YOUR DIVE COMPUTER
  - NEVER try to open the case of the dive computer.
  - Have your dive computer serviced every two years or after 200 dives (whichever comes first) by an authorized SUUNTO service center. This service will include a general operational check, replacement of the battery, and water resistance check. The service requires special tools and training. Do not attempt to do any servicing that you are not sure of.

- Should moisture appear inside the case, immediately have the instrument checked by your SUUNTO service center.
- The specific scratch guard for D4i is designed to help the display from getting scratched. They can be purchased separately from your nearest retailer. The scratch guard is easy to attach and also to replace if needed (for more information, see the instructions on *www.suunto.com*).
- Should you detect scratches, cracks or other such flaws on the display that may impair its durability, immediately have it replaced by your SUUNTO dealer or distributor.
- Wash and rinse the unit in fresh water after every use.
- Protect the unit from shock, extreme heat, direct sunlight, and chemical attack. The dive computer cannot withstand the impact of heavy objects like scuba cylinders, nor chemicals like gasoline, cleaning solvents, aerosol sprays, adhesive agents, paint, acetone, alcohol, and so on. Chemical reactions with such agents will damage the seals, case and finish.
- Store your dive computer in a dry place when you are not using it.
- The dive computer will display a battery symbol as a warning when the power gets too low. When this happens, the instrument should not be used until the battery has been replaced.
- Do not fasten the strap of your dive computer too tightly. You should be able to insert your finger between the strap and your wrist.

- MAINTENANCE

  The instrument should be soaked, thoroughly rinsed with fresh water, then dried with a soft towel after each dive. Make sure that all salt crystals and sand particles have been flushed out. Check the display for possible moisture or water. DO NOT use the dive computer if you detect any moisture or water inside. Contact an authorized Suunto service center for battery replacement or other service.

  CAUTION!

  - Do not use compressed air to blow water off the unit.
  - Do not use solvents or other cleaning fluids that might cause damage.
  - Do not test or use the dive computer in pressurized air.
- WATER RESISTANCE INSPECTION

  The water resistance of the unit must be checked after replacing the battery or after other service operations. The check requires special equipment and training. You must frequently check the display for any sign of leaks. If you find moisture inside your dive computer, there is a leak. A leak must be corrected without delay as moisture may seriously damage the unit, even beyond repair. SUUNTO does not take any responsibility for damage caused by moisture in the dive computer unless the instructions of this manual are carefully followed. In the event of a leak, immediately take the dive computer to an authorized SUUNTO service center.

FAQs

For more information on service, please refer to FAQs on *www.suunto.com*.

9. BATTERY REPLACEMENT

NOTE *It is advisable to contact an authorized Suunto service center for battery replacement. It is imperative that the change is made in a proper manner to avoid any leakage of water into the battery compartment or computer.*

CAUTION *When the battery is changed, all nitrogen and oxygen uptake data is lost. Therefore, the no-fly time shown by the computer should have reached zero or you must wait for 48 hours, or preferably up to 100 hours, before you dive again.*

All history and profile data, as well as the altitude, personal, and alarm settings, will remain in the dive computer memory after the battery change. However, the clock time and time alarm settings are lost. In the NITROX mode, the nitrox settings also revert back to default settings (Mix1 21% O_2, 1.4 bar PO_2).

9.1. Wireless transmitter battery replacement

NOTE *It is advisable to contact an authorized Suunto service center for transmitter battery replacement. It is imperative that the change is made in a proper manner to avoid any leakage of water into the transmitter.*

9.1.1. Transmitter battery kit

The transmitter battery kit includes a 3.0 V CR ½ AA lithium cell battery and a lubricated O-ring. When handling the battery, do not make contact with both of the poles at the same time. Do not touch the metal surfaces of the battery with your bare fingers.

9.1.2. Required tools

- A Phillips-head screwdriver
- Soft cloth for cleaning

9.1.3. Replacing the transmitter battery

To change the transmitter battery:

1. Remove the transmitter from the regulator HP port.
2. Unscrew and remove the four Phillips screws on the back of the transmitter.
3. Pull off the transmitter cover.
4. Carefully remove the O-ring. Be careful not to damage the sealing surfaces.
5. Carefully remove the battery. Do not touch the electrical contacts or the circuit board.

   Check for any traces of leakage, or for any other damage. If there is a leak or any other damage, take the transmitter to an authorized Suunto representative or distributor for checking and repair.
6. Check the condition of the O-ring. A defective O-ring may indicate sealing or other problems. Dispose of the old O-ring, even if it seems to be in good condition
7. Check that the O-ring groove and the sealing surface of the cover are clean. Clean them with a soft cloth if necessary.

8. Gently insert the new battery into the battery compartment. Check the polarity of the battery. The "+" mark should point toward the top of the compartment and the "-" mark towards the bottom.

NOTE *It is imperative that you wait at least 30 seconds before re-installing the transmitter battery.*

When the battery is re-installed, the transmitter sends an overpressure (“---“) signal on code 12 for 10 seconds, after which it goes to normal operation, and shuts down after five (5) minutes.

9. Check that the new lubricated O-ring is in good condition. Put it in the right position in the O-ring groove. Be very careful not to get any dirt on the O-ring or its sealing surfaces.
10. Carefully put the transmitter cover into place. Note that the cover will only fit in one position. Match the three slots on the inside of the cover with the three ledges below the battery.
11. Screw the four screws back into place.

10. TECHNICAL DATA

10.1. Technical specifications

Dimensions and weight:

- Diameter: 50.0 mm/1.97 in
- Thickness: 16.0 mm/0.61 in
- Weight: 85g/3.0 oz

Transmitter:

- Max. diameter: 40 mm/1.57 in
- Length: 80 mm/3.15 in
- Weight: 118 g/4.16 oz
- Display resolution: 1 bar/1 psi

Depth gauge:

- Temperature compensated pressure sensor
- Calibrated complying with EN 13319
- Maximum depth of operation: 100 m/328 ft (complying with EN 13319)
- Accuracy: ± 1% of full scale or better from 0 to 100 m/328 ft at 20°C/68°F (complying with EN 13319)
- Depth display range: 0 to 150 m/492 ft
- Resolution: 0.1 m from 0 to 100 m/1 ft from 0 to 328 ft

Cylinder pressure gauge:

- Rated working pressure: 300 bar/4000 psi
- Resolution: 1 bar/10 psi

Other displays

- Dive time: 0 to 999 min, counting starts and stops at 1.2 m /4 ft depth
- Surface time: 0 to 99 h 59 min
- Dive counter: 0 to 99 for repetitive dives
- No-decompression time: 0 to 99 min (- - after 99)
- Ascent time: 0 to 199 min (- - after 199)
- Ceiling depths: 3.0 to 100 m /10 to 328 ft
- Air time: 0 to 99 min (- - after 99)

Temperature display:

- Resolution: 1°C/1°F
- Display range: -20 to +50°C/-9 to +122°F
  Display range: -9 to +50°C/-9 to +122°F
- Accuracy: ± 2°C/± 3.6°F within 20 minutes of temperature change

Calendar clock:

- Accuracy: ± 25 s/month (at 20°C/68°F)
- 12/24 h display

Displays only in NITROX mode:

- Oxygen %: 21–50
- Oxygen partial pressure display: 0.5–1.6 bar. This depends on the limit setting
- Oxygen Limit Fraction: 1–200% with 1% resolution

Logbook/dive profile memory:

- Air and Nitrox dive recording rate: default 20 seconds, adjustable 10, 20, 30, 60 s
- Free dive recording rate: default 2 seconds, adjustable 1, 2, 5 s

- Memory capacity: approximately 140 hours of diving with 20 second recording interval and without transmitter data. In Dive Free the memory capacity is maximum 35 hours.
- Depth resolution: 0.3 m/1 ft

Operating conditions:

- Normal altitude range: 0 to 3,000 m/10,000 ft above sea level
- Operating temperature: 0°C to 40°C/32°F to 104°F
- Storage temperature: -20°C to +50°C/ -4°F to +122°F

It is recommended that the instrument be stored in a dry place at room temperature.

NOTE *Do not leave the dive computer in direct sunlight!*

Tissue calculation model:

- Suunto RGBM algorithm (developed by Suunto and Bruce R. Wienke, BSc, MSc, PhD)
- 9 tissue compartments
- Tissue compartment halftimes: 2.5, 5, 10, 20, 40, 80, 120, 240, and 480 minutes (on gassing). The off gassing halftimes are slowed down
- Reduced gradient (variable) "M" values based on diving habit and dive violations. The "M" values are tracked up to 100 hours after a dive
- The EAN and oxygen exposure calculations are based on recommendations by R.W. Hamilton, PhD and currently accepted exposure time limit tables and principles.

Battery:

- One 3 V lithium battery: CR 2450

- Battery storage time (shelf life): Up to three years
- Replacement: Every two years, or more often depending on dive activity
- Life expectancy at 20°C/68°F:
  - 0 dives/year –> 2 years
  - 100 dives/year –>1.5 years
  - 300 dives/year –>1 year

Transmitter:

- One 3V lithium battery: 1/2AA O-ring 2.00 mm x 2.00 mm
- Battery storage time (shelf life): Up to three years
- Replacement: Every two years, or more often depending on dive activity
- Life expectancy at 20°C/68°F:
  - 0 dives/year –> 3 years
  - 100 dives/year –> 2 years
  - 400 dives/year –> 1 year

The following conditions have an effect on the expected battery lifetime:

- The length of the dives
- The conditions in which the unit is operated and stored (for example, temperature/cold conditions). Below 10°C/50°F the expected battery lifetime is about 50-75% of that at 20°C/68°F.
- The quality of the battery. (Some lithium batteries may exhaust unexpectedly, which cannot be tested in advance)
- The time the transmitter has been stored until it gets to the customer. (The battery is installed in the unit at the factory)

NOTE *Low temperature or an internal oxidation of the battery may activate the battery warning even though the battery has enough capacity. In this case, the warning usually disappears when the DIVE mode is activated again.*

10.2. Suunto RGBM

The Suunto Reduced Gradient Bubble Model (RGBM) is a modern algorithm for predicting both dissolved and free gas in the tissues and blood of divers. It was developed in co-operation between Suunto and Bruce R. Wienke BSc, MSc, PhD. It is based on both laboratory experiments and diving data, including data from DAN.

It is a significant advance on the classical Haldane models, which do not predict free gas (microbubbles). The advantage of Suunto RGBM is additional safety through its ability to adapt to a wide variety of situations. Suunto RGBM addresses a number of diving circumstances outside the range of dissolved-gas-only models by:

- Monitoring continuous multiday diving
- Computing closely spaced repetitive diving
- Reacting to a dive deeper than the previous dive
- Adapting to rapid ascents which produce high microbubble (silent-bubble) build-up
- Incorporating consistency with real physical laws for gas kinetics

10.2.1. Suunto RGBM adaptive decompression

The Suunto RGBM algorithm adapts its predictions of both the effects of microbubble build-up and adverse dive profiles in the current dive series. It also changes these calculations according to the personal adjustment you select.

The pattern and speed of decompression at the surface is adjusted according to microbubble influence.

On repetitive dives, adjustment may also be applied to the maximum allowable nitrogen overpressure in each theoretical tissue group.

Depending on the circumstances, Suunto RGBM will adapt the decompression obligations by doing any or all of the following:

- Reducing No-decompression Stop dive times
- Adding Mandatory Safety Stops
- Increasing Decompression Stop times
- Advising an extended surface interval (Diver Attention symbol)

Diver Attention Symbol – Advice to Extend Surface Interval

Some patterns of diving cumulatively add a higher risk of DCI; for example, dives with short surface intervals, repetitive dives deeper than earlier ones, multiple ascents, and substantial multiday diving. When this is detected, in addition to adapting the decompression algorithm, the Suunto RGBM model will in some circumstances also advise, with the Diver Attention Symbol, that you extend your surface interval.

10.2.2. No-decompression limits for air

The no-decompression limits displayed by the dive computer for the first dive to a single depth (see *Table 10.1, No-decompression time limits for various depths (m)* and *Table 10.2, No-decompression time limits for various depths (ft)*), are slightly more conservative than those permitted by the U.S. Navy tables.

Table 10.1. No-decompression time limits for various depths (m)

	No-decompression time limits (mins) for various depths (m) for the first dive of a series								
Depth (m)	**Personal Mode / Altitude Mode**								
	P0/A0	**P0/A1**	**P0/A2**	**P1/A0**	**P1/A1**	**P1/A2**	**P2/A0**	**P2/A1**	**P2/A2**
9 12 15	205 124 71	148 77 51	97 54 34	181 108 65	133 69 47	86 50 31	160 93 59	120 63 42	76 46 29
18 21 24	51 37 29	34 26 19	24 17 11	47 34 27	32 24 17	22 15 10	43 31 25	29 21 16	20 13 9
27 30 33	22 17 13	13 10 8	8 6 4	20 16 12	12 9 7	7 5 4	19 14 11	11 9 6	7 5 4

	No-decompression time limits (mins) for various depths (m) for the first dive of a series								
Depth (m)	**Personal Mode / Altitude Mode**								
	P0/A0	**P0/A1**	**P0/A2**	**P1/A0**	**P1/A1**	**P1/A2**	**P2/A0**	**P2/A1**	**P2/A2**
36	10	6	4	9	5	3	9	5	3
39	8	5	3	8	4	3	7	4	3
42	6	4	3	6	4	3	5	3	2
45	5	3	2	5	3	2	4	3	2

Table 10.2. No-decompression time limits for various depths (ft)

	No-decompression time limits (mins) for various depths (ft) for the first dive of a series								
Depth (ft)	**Personal Mode / Altitude Mode**								
	P0/A0	**P0/A1**	**P0/A2**	**P1/A0**	**P1/A1**	**P1/A2**	**P2/A0**	**P2/A1**	**P2/A2**
30	199	144	93	176	130	82	156	117	73
40	120	74	52	103	67	48	90	61	44
50	69	50	33	63	45	30	57	41	28
60	50	33	23	46	31	21	41	28	19
70	36	25	16	33	23	14	30	21	12
80	28	18	10	26	17	10	23	15	9

	No-decompression time limits (mins) for various depths (ft) for the first dive of a series								
Depth (ft)	**Personal Mode / Altitude Mode**								
	P0/A0	**P0/A1**	**P0/A2**	**P1/A0**	**P1/A1**	**P1/A2**	**P2/A0**	**P2/A1**	**P2/A2**
90	21	13	8	19	11	7	18	10	6
100	17	10	5	15	9	5	13	8	5
110	12	7	4	11	7	4	10	6	4
120	10	6	4	9	5	3	8	5	3
130	8	5	3	7	4	3	6	4	3
140	6	4	3	6	4	2	5	3	2
150	5	3	2	5	3	2	4	3	2

10.2.3. Altitude diving

The atmospheric pressure is lower at high altitudes than at sea level. After traveling to a higher altitude, you will have additional nitrogen in your body, compared to the equilibrium situation at the original altitude. This "additional" nitrogen is released gradually over time and equilibrium is restored. It is recommended that you acclimatize to a new altitude by waiting at least three hours before making a dive.

Before high-altitude diving, the instrument must be set to the Altitude Adjustment mode to adjust the calculations for the new altitude. The maximum partial pressures of nitrogen allowed by the mathematical model of the dive computer are reduced according to the lower ambient pressure.

As a result, the allowed no-decompression-stop limits are considerably reduced.

10.3. Oxygen exposure

The oxygen exposure calculations are based on currently accepted exposure time limit tables and principles. In addition to this, the dive computer uses several methods to conservatively estimate the oxygen exposure. For example:

- The displayed oxygen exposure calculations are raised to the next higher percentage value.
- The CNS % limits up to1.6 bar are based on 1991 NOAA Diving Manual limits
- The OTU monitoring is based on the long-term daily tolerance level and the recovery rate is reduced.

Oxygen related information displayed by the dive computer is also designed to ensure that all warnings and displays occur at the appropriate phases of a dive. For example, the following information will be shown before and during a dive when the computer is set in NITROX mode:

- The selected O_2% on the alternative display
- OLF% alternative display for either CNS% or OTU% (whichever is larger)
- Audible alarms are given and the OLF value starts to blink when the 80% and 100% limits are exceeded.
- Audible alarms are given and the actual PO_2 value blinks when it exceeds the preset limit.
- In dive planning, the maximum depth according to the O_2% and maximum PO_2 selected.

11. INTELLECTUAL PROPERTY

11.1. Trademark

Suunto is a registered trademark of Suunto Oy.

11.2. Copyright

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11.3. Patent notice

Patents have been issued or applied for one or several features of this product.

12. DISCLAIMERS

12.1. CE

The CE mark is used to mark conformity with the European Union EMC directive 89/336/EEC.

12.2. EN 13319

EN 13319 is a European diving depth gauge standard. Suunto dive computers are designed to comply with this standard.

12.3. EN 250 / FIOH

The tank pressure gauge and dive instrument parts used in measuring the tank pressure meet the requirements set in the section of the European Standard EN 250 that concern tank pressure measurements. FIOH, notified body no.0430, has EC type-examined this type of personal protective equipment.

13. SUUNTO LIMITED WARRANTY

Suunto warrants that during the Warranty Period Suunto or a Suunto Authorized Service Center (hereinafter Service Center) will, at its sole discretion, remedy defects in materials or workmanship free of charge either by a) repairing, or b) replacing, or c) refunding, subject to the terms and conditions of this Limited Warranty. This Limited Warranty is only valid and enforceable in the country of purchase, unless local law stipulates otherwise.

Warranty Period

The Limited Warranty Period starts at the date of original retail purchase. The Warranty Period is two (2) years for display devices. The Warranty Period is one (1) year for accessories and consumable parts, including but not limited to chargeable batteries, chargers, docking stations, straps, cables and hoses.

Exclusions and Limitations

This Limited Warranty does not cover:

1. a) normal wear and tear, b) defects caused by rough handling, or c) defects or damage caused by misuse contrary to intended or recommended use;
2. user manuals or any third-party items;
3. defects or alleged defects caused by the use with any product, accessory, software and/or service not manufactured or supplied by Suunto;
4. replaceable batteries.

This Limited Warranty is not enforceable if item:

1. has been opened beyond intended use;
2. has been repaired using unauthorized spare parts; modified or repaired by unauthorized Service Center;

3. serial number has been removed, altered or made illegible in any way, as determined at the sole discretion of Suunto;
4. has been exposed to chemicals including but not limited to mosquito repellents.

Suunto does not warrant that the operation of the Product will be uninterrupted or error free, or that the Product will work in combination with any hardware or software provided by a third party.

Access to Suunto warranty service

Register your item at www.suunto.com/register and save the purchase receipt and/or registration card. For instructions how to obtain warranty service, visit www.suunto.com, contact your local authorized Suunto service center, or call Suunto Contact Center +358 2 284 1160 (national or premium rates may apply).

Limitation of Liability

To the maximum extent permitted by applicable mandatory laws, this Limited Warranty is your sole and exclusive remedy and is in lieu of all other warranties, expressed or implied. Suunto shall not be liable for special, incidental, punitive or consequential damages, including but not limited to loss of anticipated benefits, loss of data, loss of use, cost of capital, cost of any substitute equipment or facilities, claims of third parties, damage to property resulting from the purchase or use of the item or arising from breach of the warranty, breach of contract, negligence, strict tort, or any legal or equitable theory, even if Suunto knew of the likelihood of such damages. Suunto shall not be liable for delay in rendering warranty service.

14. DISPOSAL OF THE DEVICE

Please dispose of the device in an appropriate way, treating it as electronic waste. Do not throw it in the garbage. If you wish, you may return the device to your nearest Suunto representative.

GLOSSARY

Altitude dive	A dive made at an elevation greater than 300 m/1000 ft above sea level.
Ascent rate	The speed at which the diver ascends toward the surface.
ASC RATE	Abbreviation for ascent rate.
Ascent time	The minimum amount of time needed to reach the surface on a decompression stop dive.
ASC TIME	Abbreviation for ascent time.
Ceiling	On a decompression stop dive, the shallowest depth to which a diver may ascend based on computed nitrogen load.
Central nervous system toxicity	Toxicity caused by oxygen. Can cause a variety of neurological symptoms. The most important of which is an epileptic-like convulsion which can cause a diver to drown.
CNS	Abbreviation for central nervous system toxicity.
CNS%	Central nervous system toxicity limit fraction. Also note Oxygen Limit Fraction
Compartment	See "Tissue group".
DAN	Abbreviation for Divers Alert Network.
DCI	Abbreviation for decompression illness.
DM4	Suunto DM4 with Movescount, a software for managing your dives
Decompression	Time spent at a decompression stop, or range, before surfacing, to allow absorbed nitrogen to escape naturally from tissues
Decompression range	On a decompression stop dive, the depth range between the floor and the ceiling within which a diver must stop for some time during ascent.

Decompression illness	Any of a variety of maladies resulting either directly or indirectly from the formation of nitrogen bubbles in tissues or body fluids, as a result of inadequately controlled decompression. Commonly called "the bends" or "DCI".
Dive series	A group of repetitive dives between which the dive computer indicates some nitrogen loading is present. When nitrogen loading reaches zero the dive computer deactivates.
Dive time	Elapsed time between leaving the surface to descend, and returning to the surface at the end of a dive.
EAD	Abbreviation for equivalent air depth.
EAN	Abbreviation for enriched air nitrox.
Enriched air nitrox	Also called nitrox or Enriched Air = EANx. Air that has some oxygen added. Standard mixes are EAN32 (NOAA Nitrox I = NN I) and EAN36 (NOAA Nitrox II = NN II).
Equivalent air depth	Nitrogen partial pressure equivalent table.
Floor	The deepest depth during a decompression stop dive at which decompression takes place.
Half time	After a change in ambient pressure, the amount of time required for the partial pressure of nitrogen in a theoretical compartment to go half way from its previous value to saturation at the new ambient pressure.
MOD	The maximum operating depth of a breathing gas is the depth at which the partial pressure of oxygen (PO2) of the gas mix exceeds a safe limit.

Multi level dive	A single or repetitive dive that includes time spent at various depths and whose no decompression limits are therefore not determined solely by the maximum depth attained.
Nitrox	In sports diving, refers to any mix with a higher fraction of oxygen than standard air.
NOAA	United States National Oceanic and Atmospheric Administration.
No decompression time	The maximum amount of time a diver may remain at a particular depth without having to make decompression stops during the subsequent ascent.
No decompression dive	Any dive which permits a direct, uninterrupted ascent to the surface at any time.
NO DEC TIME	Abbreviation for no decompression time limit.
OEA = EAN = EANx	Abbreviations for oxygen enriched air nitrox.
OLF	Abbreviation for oxygen limit fraction.
OTU	Abbreviation for oxygen tolerance unit.
Oxygen tolerance unit	Used to measure the whole-body-toxicity.
Oxygen limit fraction	A term used by Suunto for the values displayed in the oxygen toxicity bar graph. The value is either the CNS% or the OTU%.
O_2%	Oxygen percentage or oxygen fraction in the breathing gas. Standard air has 21% oxygen.
Oxygen partial pressure	Limits the maximum depth to which the nitrox mixture can be safely used. The maximum partial pressure limit for enriched air diving is 1.4 bar. The contingency partial pressure limit is 1.6 bar. Dives beyond this limit risk immediate oxygen toxicity.

PFO	Abbreviation for patent foramen ovale. It is a form of congenital heart defect that enables blood flow between the left and right atria via the interatrial septum.
PO_2	Abbreviation for oxygen partial pressure.
RGBM	Abbreviation for Reduced Gradient Bubble Model.
Reduced Gradient Bubble Model	Modern algorithm for tracking both dissolved and free gas in divers.
Repetitive dive	Any dive whose decompression time limits are affected by residual nitrogen absorbed during previous dives.
Residual nitrogen	The amount of excess nitrogen remaining in a diver after one or more dives.
SURF TIME	Abbreviation for surface interval time.
Surface interval time	Elapsed time between surfacing from a dive and beginning a descent for the subsequent repetitive dive.
Tissue group	Theoretical concept used to model bodily tissues for the construction of decompression tables or calculations.
UHMS	Abbreviation for Undersea and Hyperbaric Medical Society.
Whole-body toxicity	Another form of oxygen toxicity, which is caused by prolonged exposure to high oxygen partial pressures. The most common symptoms are irritation in the lungs, a burning sensation in the chest, coughing and reduction of the vital capacity. Also called Pulmonary Oxygen Toxicity. See also OTU.

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